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in His Majesty's service in Bengal, and the comparative salubrity or otherwise of the different Stations for European Troops in this command.

As to the healthiness of the Stations occupied by H. Majesty's Troops in Bengal, the following abstract from their Sick Returns will serve so far, to afford the requisite information for a period of four years, as to their comparative degree of health from 1830 to 1833 inclusive.

STATIONS.	Period of years.	Officers.			Men.			Women.			Children.		
		Average Strength,	Died of diseases in the Station,	Proportion of Deaths to Strength per cent.	Average Strength,	Died of diseases in the Station,	Proportion of Deaths to Strength per cent.	Average Strength,	Died of diseases in the Station,	Proportion of Deaths to Strength per cent.	Average Strength,	Died of diseases in the Station,	Proportion of Deaths to Strength per cent.
Meerut, .. ..	4	222	3	1.35	5,900	117	1.98	722	16	2.21	1,200	59	4.91
Cawnpore, ..	4	226	7	3.10	5,950	271	4.55	914	37	4.04	1,572	145	9.22
Ghazepore, ..	4	109	3	2.75	3,754	143	3.80	456	15	3.29	845	56	6.62
Berhampore, ..	4	118	9	7.62	3,515	236	6.77	473	27	5.71	865	70	8.09
Chinsurah, ....	4	119	6	5.04	2,523	154	6.10	469	28	5.96	756	28	3.70
Fort William, ..	4	119	7	5.88	3,097	235	7.59	447	48	10.73	761	124	16.29
Kurnaul, .. ..	3	81	1	1.23	2,827	85	3.00	404	7	1.73	679	15	6.62
Agra, .. ..	2	63	..	..	1,513	29	1.91	208	3	1.45	336	30	8.92
Dinapore, .. ..	2	56	1	1.79	1,612	56	3.84	189	8	4.23	299	37	12.37
Boghypore, ..	1	27	..	..	1,037	41	3.95	119	6	5.05	190	16	8.42
ChirraPoonjee, ..	1	..	..	..	38	6	15.79	..	..	..	..	..	..
Landour, .. ..	4	..	..	..	275	16	5.82	..	..	..	..	..	..
Total, .....	..	..	..	..	32,041	1,389	4.33	14,401	195	4.43	7,503	610	8.30

Among the Officers there were ten more deaths, but none of which occurred in any of the above Stations, viz.—

At Sea .....

On the River .....

At Madras .....

At Sultanpore Benares .....

At Allahabad .....

On the Hills .....

The following proportions of deaths among the Officers in service for four years, from 1830 to 1833 inclusive

Total strength	Total Deaths.	Total ratio of deaths to strength
1140	47	412

Among the Men also there were other deaths, not within the scope of the foregoing Statement; in consequence of which an abstract is given to include the whole of the casualties regimentally among all His Majesty's Troops throughout the Bengal command, for the period 1830 to 1833.

REGIMENTS.	Period of years.	Strength of Command, 1st January each year.	By disease in Regimental Hospitals.	By accidents, drowned, killed, &c.	Absent Deaths.	Grand Total of Deaths.	Proportion of Deaths to Strength per cent.	Invalided.	Remarks.
11th Lt. Dragoons, ..	4	2,626	75	2	15	92	3.50	18	In the Column 'absent Deaths,' are included, Deaths absent from Regiment in General and Detachment Hospitals, and other Casualties, such as died or drowned at sea, &c.
16th Lancers, ..	4	2,488	121	12	16	149	5.83	36	
3d. Buffs, ..	4	3,138	185	13	7	205	6.53	4	
13th Lt. Infantry, ..	4	3,217	87	6	4	97	3.01	13	
14th Foot, ..	1-1	1,350	58	6	3	67	4.96	0	
16th Ditto, ..	4	3,047	199	7	9	215	7.05	20	
26th Ditto, ..	4	3,417	53	3	24	80	2.32	10	
31st Ditto, ..	4	3,925	100	18	18	136	3.72	8	
38th Ditto, ..	4	3,927	146	20	22	188	4.78	4	
44th Ditto, ..	4	3,510	135	9	5	149	4.24	11	
49th Ditto, ..	4	2,909	110	11	2	223	7.66	8	
Total, ..	0	33,485	1,369	107	127	1,601	4.78	133	

Shewing the strength and deaths, and the ratio of deaths to strength, in His Majesty's Regiments, in the Bengal command.

	Total Average strength.	Total Deaths.	Total ratio of deaths to strength per cent.
Men, .....	33484	1601	4.78.

It is to be observed that the strength of the troops in this statement is as given in the Regimental Returns on the 1st January of each year, and which differs from the mean annual strength; the latter being 32041, the ratio of total deaths to it is 4.99. In the different Stations of His Majesty's Regiments in the Presidency of Bengal, there is so little difference in the periods and duration of the seasons, as well as in their general temperature and climate, that it is upon the late features of each Station itself, and from the data afforded by

its Returns, that its comparative salubrity would appear to be best deduced.

The steadiness or mutability of the climate, or considerable anomalies of weather, or physical properties, seem more to influence the health of the troops than either its heat or its cold, abstractedly considered.

The causes of sickness in many Stations must be traced to other sources than climate.

- The soil of Bengal being composed of alluvial matter, formed by the detritus carried down by the great rivers, and accumulated for ages, there is a poison in the exhalations of such soils, the nature of which is unknown; but from it emanate all those species and varieties of fevers, (dependent on marsh miasma as their remote cause) so frequent in Bengal, and to which one general character appertains—periodicity, or remissions, and exacerbations.

A large proportion however of the cases of sickness and deaths among the European soldiers, may be more or less attributed to excesses, especially in the use of spirituous liquors.

The relative healthiness of each Station is according to the Returns, as follows, from 1830 to 1833 inclusive—

	Deaths to strength.
Fort William .....	7.59 per cent.
Berhampore .....	6.77
Chinsurah .....	6.10
Cawnpore .....	4.55
Boglipore .....	3.95
Dinapore .....	3.84
Ghazeepore .....	3.80
Kurnal .....	3.00
Meerut .....	1.98
Agra .....	1.91

- There are given Classification Tables, taken from the Regimental Returns, shewing the different classes, numbers, ~~ages~~, and deaths, of the soldiers of His Majesty's service in Bengal for the years 1826 to 1833, viz.

*Return of the different Classes of Men, Ages and Deaths of H. Majesty's Troops serving in the Bengal Command.*

1826.

CLASS.	Age.	11th Light Dragoons, from Bhurtpore.		16th Light Dragoons, from Bhurtpore.		13th Light Infantry, from Ava.		14th Foot, from Bhurtpore.		31st Foot, from Eng-land.		38th Foot, from Ava.		44th Foot, from Ava.		47th Foot, from Ava.		59th Foot, from Bhurtpore.		87th Foot, from Ava.		Total.		Proportion of Deaths to Strength per cent.
		Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	
From 16 to 20 years.		21	0	6	0	111	64	41	12	102	60	91	21	196	56	144	22	231	31	72	7	1,015	273	26.89
" 20 to 25 "		98	4	67	6	388	26	143	23	516	46	174	35	263	14	144	46	217	28	218	34	2,233	262	11.69
" 25 to 30 "		150	15	119	2	213	23	210	19	118	23	126	44	196	46	267	30	214	20	226	51	1,869	273	14.61
" 30 to 35 "		173	15	270	8	93	8	276	20	86	9	130	29	161	19	140	28	126	13	191	42	1,649	191	11.58
" 35 to 45 "		113	12	169	5	57	13	244	23	37	12	90	19	110	7	83	21	141	26	234	38	1,279	176	13.76
Under 18 years, ..		12	0	1	0	15	0	3	0	14	0	22	0	31	0	23	0	61	0	0	0	182	0	0
Unknown, ..		0	0	20	0	0	0	0	0	0	0	194	0	205	0	0	0	0	0	0	0	419	0	0

1826 being the first year these Returns were required, the term "unknown," was applied to those men whose ages the Surgeons could not then ascertain, but afterwards, when ascertained, they were taken into their proper and respective classes.

1827.

Class.	Age.	11th Light Dragoons.		16th Light Dragoons.		3d. Foot or Buls.		13th Light Infantry.		1st. Foot.		31st Foot.		38th Foot.		44th Foot.		47th Foot.		59th Foot.		Total.		Proportion of Deaths to Strength per cent.
		Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	
From 18 to 20 years,		20	2	5	0	46	12	137	21	22	8	114	12	99	23	198	11	94	6	189	10	924	108	11.69
" 20 to 25 "		134	8	66	16	184	29	161	35	111	8	435	28	297	29	425	21	362	21	326	8	1,581	178	11.25
" 25 to 30 "		117	10	123	10	86	28	197	13	165	13	262	10	184	27	223	10	255	19	199	11	1,811	151	8.34
" 30 to 35 "		168	11	260	12	77	16	88	3	272	15	87	6	211	12	175	5	113	14	130	5	2,834	99	3.49
" 35 to 45 "		164	4	166	6	81	27	58	4	217	19	81	9	122	20	114	1	74	12	104	7	1,194	100	8.37
Under 18 years, ..		16	0	1	0	0	0	11	0	2	0	13	0	21	0	37	0	13	0	29	0	152	0	0
unknown, ..		1	0	20	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	53	0	0



1828.

Class.	Age.	11th Light Dragoons.		16th Light Dragoons.		3d Foot or Buffs.		13th Light Infantry.		14th Foot.		31st Foot.		38th Foot.		44th Foot.		47th Foot.		59th Foot.		Total.		Proportion of Deaths to Strength per cent.
		Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	
From 18 to 20 years.		16	2	2	0	52	5	35	16	19	3	62	4	86	8	98	9	88	2	181	4	639	50	7.82
" 20 to 25 "		140	25	50	10	282	35	463	35	167	10	512	18	299	27	186	23	363	16	298	21	3,106	210	6.76
" 25 to 30 "		124	15	93	8	133	19	200	27	155	7	285	22	180	20	213	8	243	25	178	11	1,804	162	8.98
" 30 to 35 "		149	11	168	17	112	26	108	7	251	12	81	7	145	3	164	4	105	8	124	4	1,408	99	7.03
" 35 to 45 "		159	11	217	11	120	19	57	11	261	28	89	10	129	13	117	3	67	7	97	5	1,313	118	8.98
Under 18 years. . .		17	0	6	0	3	0	19	0	4	0	8	0	13	0	17	0	13	0	21	0	121	0	0
Unknown, . . .		0	0	0	0	49	0	0	0	0	0	5	0	0	0	23	0	0	0	0	0	77	0	0

1829.

Class.	11th Light Dragoons.		16th Light Dragoons.		3d. Foot or Buffs.		13th Light Infantry.		14th Foot.		16th Foot.		31st Foot.		38th Foot.		44th Foot.		49th Foot.		Total.		Proportion of Deaths to Strength per cent.
	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	
From 18 to 20 years.	5	2					13	9	3	0	22	9	3	2	48	0	22	4	39	3	210	38	18.09
" 20 to 25 "	122	12	148	41	390	26	413	50	140	5	98	15	535	24	386	20	497	15	199	14	2,927	223	7.62
" 25 to 30 "	140	9	107	5	129	28	202	32	150	7	127	18	329	10	236	13	193	8	200	26	1,813	156	8.60
" 30 to 35 "	146	5	123	4	142	6	118	10	256	5	169	6	84	3	129	6	153	4	188	35	1,508	84	5.57
" 35 to 40 "	50	8	214	14	153	6	52	8	271	19	405	9	90	2	137	8	131	2	87	29	1,490	105	7.04
Under 18 years, ..	16	0	12	0	9	0	19	0	5	0	10	0	14	0	6	0	14	0	7	0	112	0	0
Unknown, ..	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	18	0	0	0	20	0	0

1830.

Class.	Age.	11th Light Dragoons.		16th Light Dragoons.		3d. Foot or Buffs.		13th Light Infantry.		14th Foot.		16th Foot.		26th Foot.		31st Foot.		38th Foot.		44th Foot.		49th Foot.		Total.		Proportion of Deaths to Strength per cent.
		Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	
From 18 to 20 years.		60	0	25	2	17	1	166	0	159	0	28	1	38	1	12	0	55	0	400	0	12	1	972	6	0.62
" 20 to 22 "		81	2	32	5	82	5	165	2	0	5	111	3	132	1	131	3	114	8	0	7	204	6	1,052	47	4.47
" 22 to 24 "		120	6	124	1	195	8	131	8	0	6	119	9	224	0	149	4	256	9	0	8	109	8	1,427	67	4.69
" 25 to 30 "		191	5	127	2	298	16	144	12	0	10	207	18	306	7	475	10	353	10	412	11	155	22	2,668	123	4.60
" 30 to 35 "		142	5	114	5	149	9	120	2	382	35	145	16	110	1	130	3	135	6	97	6	246	10	1,770	98	5.53
" 35 to 45 "		50	5	221	11	131	2	68	2	87	7	207	17	94	6	132	0	152	8	39	5	44	3	1,225	66	5.38

1831.

Class.	11th Light Dragoons.		16th Light Dragoons.		3d. Foot or Buffs.		13th Light Infantry.		16th Foot.		26th Foot.		31st Foot.		38th Foot.		44th Foot.		49th Foot.		Total.		Proportion of Deaths to Strength per cent.
	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	
From 18 to 20 years.	24	0	4	1	13	0	165	0	14	0	98	0	1	0	27	0	360	0	16	0	722	1	0.14
" 20 to 22 "	62	3	9	2	27	4	194	3	136	1	103	3	92	1	175	1	0	2	40	3	838	22	2.62
" 22 to 24 "	129	4	89	2	124	11	131	8	119	15	183	6	111	4	214	11	0	19	45	6	1,145	86	7.51
" 25 to 30 "	182	12	208	4	361	23	156	19	206	15	399	10	492	19	272	21	379	5	371	31	3,026	159	5.25
" 30 to 35 "	250	4	93	6	161	7	80	6	111	11	33	4	146	6	154	8	114	7	222	17	1,264	76	6.01
" 35 to 45 "	55	12	225	10	136	11	74	3	208	12	62	3	140	4	160	13	36	6	58	10	1,154	84	7.28
Unknown, .. ..	0	0	23	0	0	0	0	0	0	0	0	0	9	0	14	0	5	0	0	0	51	0	0

1832.

Class.	Age.	11th Light Dragoons.		16th Light Dragoons Lancers.		3d Foot or Fusils.		13th Light Infantry.		16th Foot.		26th Foot.		31st Foot.		38th Foot.		44th Foot.		49th Foot.		Total.		Proportion of Deaths to strength per Cent
		Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	
From 18 to 20 years		13	1	15	0	9	0	141	0	4	1	7	0	94	0	5	1	173	1	16	1	432	5	1.04
" 20 to 22 "		55	1	26	0	33	1	195	1	10	2	118	2	109	0	93	0	5	1	71	0	715	8	1.11
" 22 to 24 "		155	1	85	3	65	7	124	0	8	7	236	5	126	1	95	5	1	4	92	6	1062	39	3.67
" 25 to 30 "		238	4	214	6	310	33	157	9	189	12	207	9	181	31	383	19	319	11	240	19	2458	153	6.27
" 30 to 35 "		161	2	87	4	159	16	73	1	136	5	124	5	254	10	183	5	302	8	176	10	1655	66	3.99
" 35 to 45 "		26	12	229	13	167	15	73	0	209	14	105	1	56	8	199	6	50	1	115	6	1329	76	5.71
Under 18 years. ..		3	0	13	0	0	0	11	0	0	0	9	0	9	0	12	0	5	0	0	0	62	0	0

\* From 18 to 20 years

1833.

Age.	Class.	11th Light Dragoons.		16th Light Dragoons Lancers.		3d Foot or Buffs.		13th Light Infantry.		16th Foot.		26th Foot.		51st Foot.		38th Foot.		44th Foot.		49th Foot.		Total.		Proportion of Deaths to strength per Cent.
		Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	Number.	Died.	
From 18 to 20 years.		15	0	10	0	107	1	146	1	4	0	6	0	13	0	5	0	73	0	16	0	395	2	0.50
" 20 to 22 "		112	1	20	3	98	0	173	0	10	0	12	1	11	0	111	0	218	1	20	0	785	6	0.76
" 22 to 24 "		64	0	49	10	82	2	131	0	90	1	81	1	9	1	93	0	204	2	63	6	866	23	2.65
" 25 to 30 "		123	3	206	25	99	20	135	13	309	22	389	11	676	19	298	25	126	24	260	22	2512	184	7.32
" 30 to 35 "		133	1	82	4	195	8	76	3	138	9	164	1	147	3	175	16	121	8	183	23	1414	76	5.37
" 35 to 45 "		179	8	191	30	113	5	70	4	217	15	115	5	59	9	200	16	61	10	103	13	1288	113	8.77
Under 18 years.		3	0	16	0	7	0	9	0	14	0	7	0	10	0	9	0	4	0	0	0	73	0	0

*General Abstract of the foregoing Returns, giving the Ratio of Deaths of each class for 8 years.*

CLASS.	1830.	1831.	1832.	1833.	Average proportion from 1830 to 1833.	1826.	1827.	1828.	1829.	Average proportion from 1826 to 1829.	Mean average proportion for 8 years.
From 18 to 20 years.	0.62	0.14	1.04	0.50	0.58	26.83	11.69	7.82	18.09	16.12	8.35
" 20 to 25 "	4.58	5.07	2.39	1.71	3.44	11.69	1.125	6.76	7.62	9.33	6.39
" 25 to 30 "	4.60	5.25	6.27	7.32	5.86	14.61	8.34	8.98	8.60	10.13	8.25
" 30 to 35 "	5.53	6.01	3.29	5.37	5.22	11.58	3.49	7.03	5.57	6.92	6.07
" 35 to 45 "	5.38	7.28	5.71	8.77	6.78	13.76	8.37	8.98	7.04	9.54	8.16

The General Abstract of the foregoing shews that for the four first years, viz. 1826-27-28 and 29 the ratio of deaths is,

From the age of 18 to 20 years 16·12 per cent.

„	20 to 25	„	9·33	„
„	25 to 30	„	10·13	„
„	30 to 35	„	6·92	„
„	35 to 45	„	9·54	„

\* For the four last years, viz. 1830-31-32 and 33, the ratio of deaths is,

From the age of 18 to 20 years 0·58 per cent.

„	20 to 22	„	2·24	} 3·44
„	22 to 24	„	4·63	
„	25 to 30	„	5·86	
„	30 to 35	„	5·22	
„	35 to 45	„	6·78	

There will be observed a striking difference between the ratio of deaths in each class of the two periods of four years; viz. first, from 1826 to 1829, and, second, from 1830 inclusive. But there is to be taken into consideration, that in the first period there are included the casualties (in 1826) of the Troops His Majesty's service who had been in active service at Bhurtpore, Ava, and Arrakan. During the campaigns, in the latter places especially, the deaths from disease among the young soldiers recently arrived in India, was very great.

Thus in the 13th Regiment Light Infantry, that had arrived in India in May 1823, and was composed chiefly of young soldiers, the mortality was,

	Strength.	Deaths.	Proportion.
At Bengal from May } to December, 1823 }	653	45	6·89 for 8 months
At Ava in . . . 1824	608	231	37·99
Do. do. . . . 1825	377	115	30·50

In the 38th Regiment, which arrived in Bengal in May 1823, the mortality was,

	Strength.	Deaths.	Proportion.
In 1822 in Bengal . . .	743	94	12·65 per cent.
In 1823 do. . . .	695	52	7·48
In 1824 in Ava . . .	643	185	28·77
In 1825 do. . . .	458	162	35·37



In the 44th Regiment, which arrived from England in November 1822, the mortality was,

	Strength.	Deaths.	Proportion.
In 1823 in Bengal	661	73	11·43 per cent.
In 1824 at Chittagong } and Arrakan }	588	88	14·96
In 1825 at Arrakan	500	203	40·60

There is a difference however in the mortality of young recruits of Regiments when on active service, and the contrary ; as, for example, in the 13th Light Infantry, which in 1826 in Bengal was joined by 600 recruits, of whom there died in that year 79, being a proportion of 13·16 per cent in Bengal.

His Majesty's 31st Regiment arrived in Bengal in June 1825, and was joined in that year by 500 recruits, of whom there died 65, a proportion of 11 per cent, in Bengal.

The volunteers are generally men from the age of 30 to 35, in which class the ratio of deaths from 1826 to 1829 (including a period of active service) was 6·92, while during the same period, the ratio in the class from 18 to 20 years was 16·12 per cent.

Besides the sending from England of lads too young for the service in India, there was another important circumstance as affecting their health, which was that of their having been sent out at improper periods ; for they arrived in Bengal at the hot and rainy seasons, found to be more especially obnoxious to the lad or boy recruits ; and of such, unfortunately, was the chief part of those sent out in 1826 to 1829, as well as before.

From the difference of habits of military and civil life, young soldiers are in every climate peculiarly liable to disease, and *cæteris paribus* the younger the more susceptible to feel the change ; and this change has a direct tendency to induce a highly inflammatory diathesis, leading to such explosions of disease as witnessed here among the recruits. The tendency to disease exists it is true in all seasons in India in the young and plethoric, but it is in the hot and rainy seasons, and particularly at the commencement and termination of the rains, that endemial diseases are most dangerous, and fatal ; yet this was the very time at which these recruits principally arrived in Bengal.

I took the earliest opportunity, and seized every occasion, to make the strongest representations on these important subjects, and of sending out soldiers for His Majesty's service to India at proper

age, and season; and there are on record my memorials on these subjects to the Commander-in-Chief in India, and to the Medical Department in England—of December 23d, 1826; May 31st, 1827; 6th January, 1828; and December, 1829—and upon which the Home authorities at last acted. In these memorials it was represented by me,

• 1st. That the soldier should arrive in India at the *age* and *period* when he can be of the greatest use when called upon for actual service. That age to be 24 or 26, or full grown manhood, as most favourable to health, and least so to disease in India.

2nd. That recruits and soldiers should be embarked in England, so as to arrive in Bengal at the commencement of the cool season, when they might be *marched* to their several Stations up the country, instead of *proceeding* by the river.

These memorials I accompanied with various statements; such as those in this communication, in proof of the great comparative mortality among the lad recruits particularly; as also the comparative mortality between the soldiers arriving in Bengal in the hot and in the cool season, as by the following abstract of statements from December 1825, to July 1829, of casualties of detachments His Majesty's service, arriving in Bengal from England, being,

In the cold season, per cent,	0.75
In the hot season,	3.0
Proceeding by water to join their corps,	6.50
On marching to join their corps,	0.50
Average of casualties on the voyage out,	1.50
Average of casualties from the date of arrival in Bengal to joining their corps,	6.75
Ditto of casualties of the whole of the detachments from their leaving England to join their corps in Bengal,	8.0

The accompanying Returns\* elucidate these subjects still further, shewing the state of each Regiment His Majesty's service, their strength, the numbers who joined, and that died, from the date of their arrival in the Bengal command to the 31st December last.

On consulting the monthly admissions in the returns of sick, an abstract from which is given on the other side, the number of cases of disease (and they are particularly of the acute kind) and casualties, will be observed to correspond in a most remarkable manner with the range of the thermometer, especially at the Stations in Upper India; and so great is the difference between the cold season and the

\* The Returns alluded to, will form, hereafter, the next Number.—Ed.

hot, that a partial illustration is afforded of the influence of climate which sets all theory on the subject at defiance.

Among the soldiers exposed to the same degree of heat, the influence of the ingesta seems to be more powerfully injurious to the constitution than climate. There is a marked difference in the ratio of sick and casualties between the Cavalry and Infantry Regiments, stationed in the same cantonments, of His Majesty's service in India, in favour of the latter. In the Cavalry the soldier's pay is greater, and among them a superabundance of stimulant food and drink keeps so great a number in an almost perpetual state of proximity to, inflammatory diseases.

During the cold months the men continually expose themselves, especially in the Upper Stations, to the direct rays of the sun, which is a great cause of disease, even when all accumulation of heat is prevented by the coolness of the breeze, for then the infringing of the direct rays of the sun upon an opaque body causes a greater increase of temperature than is observable by a thermometer.

*Abstract from the Monthly Returns of Sick shewing the proportion of the average daily sick, and of deaths to strength per cent for four years.*

Months,	Proportion of the average daily sick to strength per cent.				Total proportion of the average daily sick to strength per cent.	Proportion of deaths to strength per cent.				Total proportion of deaths to strength per cent.
	1830	1831	1832	1833		1830	1831	1832	1833	
January, ..	7.12	5.94	6.33	5.45	6.21	26	23	31	15	24
February, ..	7.58	5.85	5.96	5.52	6.23	20	10	12	18	15
March, ..	8.64	5.80	6.10	5.89	6.61	18	19	15	15	17
April, ....	9.24	7.14	6.88	6.22	7.37	28	49	17	15	20
May, ....	9.75	8.47	7.88	6.78	8.22	20	44	25	25	29
June, ....	9.34	8.47	7.36	7.19	8.09	31	37	32	37	34
July, ....	9.14	8.36	7.61	7.72	8.21	30	44	34	74	46
August, ...	9.49	9.10	7.74	8.29	8.65	34	47	35	74	48
September, ..	10.71	8.32	8.03	9.79	9.21	71	46	43	1.15	69
October, ..	8.92	8.12	8.20	8.29	8.36	47	64	52	30	48
November, ..	8.16	7.18	7.05	7.79	7.54	51	60	43	35	47
December, ..	6.77	7.06	6.23	7.40	6.86	33	22	32	44	33
Total, ....	8.72	7.48	7.11	7.18	7.62	4.15	4.39	3.73	4.98	4.31

The sick at Landour and Chirra Poongee are not included in the above.

By the returns for four years, the minimum of sickness and deaths occurs in February. January and it are the driest months. The maximum of sickness and deaths occurs in September; being the cessation of the rains, when the exhalations have brought the surface to the consistence of mud—a state that appears especially to generate the miasmata producing fevers, &c.

#### *Berhampore.*

With respect to the localities of the Stations “as affecting their salubrity or otherwise,” as required by the Committee, I have in reference to the return of the sick, &c. at the several Stations, given at the commencement, further to add, that at the Station of Berhampore, the Barracks are so placed, that one particularly is close to a large stagnant tank, into which the sewers of the Barracks and necessaries, &c. empty themselves, so that in the dry and hot season especially, the men are enveloped in the stench from it. That the influence of its exhalations spreads far, I have no doubt. The malaria from it, as well as numerous other sources, is of course the active cause of much of the mischief that infests the Station of Berhampore.

For the period of four years, from 1830 to 1833, inclusive, the average proportions of deaths to strength per cent was, *at* Berhampore,

Officers .....	7·62 per cent per annum.
Men .....	6·77
Women .....	5·71
Children .....	8·09

Cholera prevailed epidemically in Berhampore in 1829 and 1830, and commenced in the temporary sheds recently erected, (not far from the great tank before mentioned) for part of His Majesty's troops; after which it appeared in the women's quarters—a low one-storied brick-building; afterwards on the ground story; and then in the upper story of the Barracks next the great tank, &c.

#### *Fort William.*

In the Station of Fort William, in the Barracks generally occupied by His Majesty's troops, the apartments for the men are deficient in height and ventilation. The buildings are too crowded together. The estimate of space, and of domestic convenience, has been too confined for the climate.

From the crowding of the buildings, and height and proximity of the fortifications, the radiation of heat is not only very great, but there is prevented the dissipation of those malarious vapours of which there appears to be so copious a supply from various sources in Fort William.

One of the consequences of all these is, in the warm season especially, the men feel so oppressed at night that they leave their rooms and expose themselves to all the causes and bad effects of suppressed transpiration.

The average ratio of mortality in His Majesty's troops quartered in Fort William is as follows, for four years from 1830 to 1833—

Officers .....	5·88 per cent per annum.
Men .....	7·59
Women .....	10·73
Children .....	16·29

Fort William is one of the worst, if not the very worst, of the Military Stations in India for children.

#### *Cawnpore.*

In the Station of Cawnpore for the period of four years, from 1830 to 1833, the average proportion of deaths to strength is,

Officers .....	3·10 per cent per annum.
Men .....	4·55
Women .....	4·04
Children .....	9·22

As to the locality of this cantonment, none of the Barrack buildings come close to the river, excepting the Hospital in which the sick of the King's Regiment of Infantry are treated. The soil rests on a substratum of Kunkur, which is favourable to the dryness of the Station. The declivity of the site secures it against any accumulation of moisture; the drainage is also facilitated by several small ravines or gullies, which intersect the cantonment, each of which during the rainy season becomes a streamlet; thus the water does not lodge, but runs quickly off into the river (above which all the Barracks are sufficiently elevated) or it is speedily absorbed, so that the wet season at Cawnpore is generally found pleasanter than in many other Stations in Upper or Central India.

The site of the Barracks of His Majesty's Infantry Regiment is pretty high, that of the King's Cavalry Regiment not so high; but that of all however is sufficiently elevated to allow of the water passing off.

The ground in the rear of the King's Infantry Regiment's Barracks is broken in many places, by the violence of the periodical rains, into deep fissures and ravines, containing numerous cavities, which, however individually small, may form in the aggregate a consider-

able deposit of stagnant water, which before its final evaporation cannot fail to be an agent more or less active in the generation of miasmata.

In the Barracks for the European troops here, the plans adopted by the architect would appear to have arisen from the idea of a Regiment standing in open column of companies, which however ingenious in a military point of view, is rather objectionable in a medical one, as it makes one building a screen to another, and thus opposes perfect perfilation, an object of paramount importance where masses of men are to be congregated together, and where a perpetual current of air becomes the grand neutralizer of insalubrious miasmata.

The prevailing winds are from the west and east, varying to the north or south. If the buildings were placed in echelon this might be prevented.

#### *Meerut.*

In the Station of Meerut the locality is in Meerut deemed good. There are a few jheels and swamps in the vicinity ; but not near, or considerable enough to have much effect on the health of the troops. The country around is flat ; the soil is sandy, with a slight declination to south sufficient to carry off the heavy rains into the Kallee Nuddy to the eastward.

Notwithstanding the northern latitude of Meerut, considerably without the tropics, and in the third climate, the heat is intense in the dry and hot season, and tropical diseases are prevalent during the hot and rainy seasons. For the period of four years, from 1830 to 1833, the average proportion of deaths to strength is, at Meerut,

Officers .....	1·35 per cent per annum.
Men .....	1·98
Women .....	2·21
Children .....	4·91

The diseases are such as arise from sudden and considerable variations of temperature and malaria, and especially among the soldiers, aggravated by exposure to the sun and intemperance.

#### *Dinapore.*

In the Station of Dinapore the aspect of the Barracks being the reverse of what it should have been in respect to the prevailing winds, free perfilation is prevented. The roof is flat and unshaded ; the length of each building is 800 feet, and width 20 feet ; there is a verandah on each side.

The masses of men, women, and children in these Barracks, is another cause of the unhealthiness experienced generally in them by the troops. There are no separate accommodations for the women and children. The doors and windows are jealously guarded.

The cold weather here was generally ushered in by severe hepatic and dysenteric affections. And in the hot season there were severe ardent fevers, very sudden in their operation, and often terminating in apoplexy.

In His Majesty's 13th Light Infantry for the period of two years, for 1830 and 1831 last, at Dinapore, the average proportion of deaths to strength was,

Officers.....	1·79 per cent per annum.
Men .....	3·84
Women.....	4·23
Children .....	12·37

The facility with which the men could obtain toddy, and deleterious liquors in excess, was one great source of disease and mortality, as also the difficulty of confining the men within bounds, there being no enclosure to the Barrack compound.

The 13th being a Light Infantry corps, their movements were more likely to expose them to profuse perspiration, and consequently to more frequent alterations of heat and cold, with the usual bad effects.

#### *Boglipore.*

In the Station of Boglipore the Barracks formerly occupied by His Majesty's 3rd Buffs, were merely a set of buildings erected temporarily in 1825 as stables for some Native Cavalry, and were very inimical to health.

#### *Ghazeepore.*

The Station of Ghazeepore appears to hold a middle station as to healthiness. The soil is readily permeable by the rain falling on its surface, which sinking down to a very considerable depth before it finds a hard bottom to detain it, is soon out of reach of superficial evaporation, and cannot afford the constant supply of moisture necessary in co-operation with other agents to produce the maturity of marsh miasmata. From the continuation of these circumstances it might *a priori* be thought that the Station possesses to a great degree an immunity from marsh miasmata.

For the period of four years, from 1830 to 1833, the average proportion of deaths to strength is,

Officers.....	2·75 per cent per annum.
Men....	3·80
Women .....	3·29
Children .....	6·62

#### *Kurnaul.*

In the Station of Kurnaul the locality of the Barracks for His Majesty's Regiment is the best the place afforded. The soil generally is light and sandy on the surface, but at the depth of 12 or 15 inches it is a stiff clay; in some parts however it is calcarious, (and of which the natives make lime). The large canal in the immediate vicinity forms an irregular semicircle near the Station, and tends in a great measure to drain that part.

For the period of three years, from 1831 to 1833, inclusive, in which it has been occupied by a King's Regiment, the average proportion of deaths to strength per cent is,

Officers .....	1·23 per cent per annum.
Men .....	3·00
Women .....	1·73
Children .....	6·62

#### *Agra.*

In the Station of Agra the cantonment for His Majesty's troops is stated to be elevated about 170 feet above the level of the river Jumna, from which the distance is about the same as from the Fort, that is  $1\frac{1}{2}$  mile. The immediate banks of the river are deeply indented with water-courses, which serve to convey the rain water into the river.

The 13th Light Infantry Regiment has been healthy ever since its arrival there, a period of two years, in which there died 29 men; but almost all of them had the foundation of their disease laid in Dinapore. This comparative healthiness, as far as locality is concerned, arises from the cantonment enjoying constant ventilation, the water running immediately off, the drainage being good, and there being no stagnant pools, or sources of malaria in the vicinity, and especially that the troops are well accommodated, and so are the sick.

Setting aside intemperance, which is the cause of so many diseases of the soldier in India, they may be said to have enjoyed a state of health at Agra almost equal to what a Regiment would be found to do in the healthiest parts of Europe.



For the period of two years, for 1832 and 1833, in which there has been a King's Regiment in Agra, the average proportion of deaths to strength per cent is,

Officers .....	
Men .....	1.91
Women .....	1.45
Children.....	8.92

I have the honour, &c.

(Signed) W. R. BURKE,

Inspect. Gen. Hospitals H. Majesty's Forces in India.

ART. VIII.—*Observations on the Burmese and Munipoor Varnish Tree, "Melanorrhæa usitata," which has lately blossomed in the Honorable Company's Botanic Garden. By N. WALLICH, M.D.*

When I published my account of this tree in 1830,\* I had only met with it in fruit, and was obliged to confine the description of the flower to what could be gathered from a few decayed and not very perfect samples in my possession. The generic character was chiefly derived from specimens of another species, *Melanorrhæa glabra*,† a native of the coast of Tenasserim. As I have recently had a tree of *M. usitata* in flower in this garden, I am able to furnish the following details, accompanied by a lithographic sketch of a flowering panicle, from a drawing made by one of the painters of the establishment.

The individual tree to which I allude is one among several which were raised from Munipoor seeds presented by Mr. George Swinton. The seeds were sown in July 1827, and began germinating exactly a fortnight afterward. About the same period some seeds that had been procured from Martaban, being more fresh, sprang up seven days after being put into the ground. The tree which has blossomed is the largest among the seventeen individuals which we at present possess. It measures in height about 22 feet, with a clean stem of seven feet, having a circumference near the base of 14 inches. It has not many branches, and is now very scantily furnished with leaves. It began opening its flowers on the 20th of January last, and continued nearly one whole month in flower. There are at present a small number of fruits on the tree, which I expect will ripen in the course of next month.

\* *Plants Asiatic Rar.* l. p. 9. tab. 11 and 12.

† *Ibid.* 3. p. 50 ab. 283.





Panicles of flowers terminal on leafless branchlets, broad-oval, spreading, much and loosely subdivided, 12 to 16 inches wide at the base; the divisions cylindric, covered with much soft down. There is a small linear, caducous bract under each branch. Flowers white, inodorous, rather large, two or three in each fascicle, supported by pedicels half an inch to an inch in length. Calyx smooth, consisting of five sepals which are marginally soldered together into one, forming a conical, attenuated, obtuse hood, slightly marked with parallel veins; it falls off the instant the corolla is ready to expand, leaving an annular vestige on the peduncle immediately under the corolla; its base circular, irregularly slit a little way, in four or five places. *Petals* white, imbricating and slightly contorted in estivation, lanceolate-oblong, rather obtuse, with entire, a little undulated, ciliated margins, thin and membranous, pubescent on both sides, minutely reticulated, half an inch long. *Torus* large, fleshy, hemispherical, pitted for the insertion of the stamens, its base five-lobed. *Stamens* very numerous, straight, spreading in all directions, half the length of the petals; *filaments* subulate, smooth; *anthers* oval, versatile. *Ovary* very small, obliquely oval, smooth, supported from the centre of the torus by a short, cylindric, pubescent pedicel, one-celled; ovule suspended from a lateral ascending funicle. *Style* rising obliquely from the vertex of the ovary, subulate, not reaching to the ends of the stamens. *Stigma* minute, obtuse.

The accompanying figure represents a panicle of flower reduced to one half of its natural size. Fig. 1, flower-bud, the hooded calyx commencing to detach itself, and at Fig. 3, completely separate. Fig. 2, corolla in estivation. Fig. 4, the same fully expanded. Fig. 5, petals separate, showing the pitted torus. Fig. 6, ovary opened showing the insertion of the ovule.

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ART. IX.—*Proceedings of the Asiatic Society.*

• • • *Wednesday Evening, the 2d January, 1839.*

The Right Rev. the LORD BISHOP of Calcutta, Vice-President, in the chair.

The Proceedings of the last Meeting were read.

The Meeting then proceeded to the election of Office-bearers for the ensuing year, when the following gentlemen were chosen:—

The Right Rev. LORD BISHOP of Calcutta,

The Honble. Sir J. P. GRANT,

H. T. PRINSEP, Esq.,

Col D. MACLEOD,

Mr. W. CRACROFT,

Mr. W. P. GRANT,

Mr. D. HARE,

Dr. Geo. EVANS,

Dr. M'CLELLAND,

Capt. FORBES,

Dr. STEWART,

and

Dr. WALLICH.

} Were elected Vice-Presidents.

} Members of the Committee of Papers.

Dr. GOODEVE and Mr. R. O'SHAUGHNESSY, proposed at the last Meeting, were balloted for, and duly elected Members of the Society.

Messrs. A. PORTEOUS and J. COWIE were proposed by the Officiating Secretary, seconded by the Vice-President.

Dr. O'SHAUGHNESSY apprised the Meeting that the Committee of Finance had recommended 20 rupees per mensem, as an increase to the Clerk HERAMBANATH THAKUR's salary.

Resolved,—That the meeting approve of the decision of the Committee of Finance, and that it take effect from the date of the Clerk's application.

Read a letter from J. K. KANE, Esq., Secretary of the American Philosophical Society, acknowledging receipt of the first part of vols. 19 and 20 of the *Asiatic Researches*, and vols. 5 and 6 of the *Journal of the Asiatic Society*.

*Library.*

Read a letter from J. VAUGHAN, Esq., Librarian of the American Philosophical Society, forwarding the following works for presentation to the Society—

Transactions of the American Philosophical Society, Vol 6, Part 1, New Series.

Transactions of the Literary and Historical Committee of the Society.

Read a letter from M. CASSIN, Book Agent of the Society in Paris, enclosing account of sales of oriental publications sold by him in France, and forwarding from the proceeds thereof several recent publications for the use of the Society. He had likewise sent several books for sale in this country.

Resolved,—That the books for sale be advertized on the cover of the *Journal, Asiatic Society*, with their prices.

A brochure by the Royal Society of Cornwall, presented by Capt. F. JENKINS through Dr. WALLICH.

Meteorological Registers kept at the Mauritius, during the last six months of 1836, and first six months of 1837, were presented by M. JULIEN DESJARDINS, Secretary of the Natural History Society of the Mauritius.

Read a letter from MADHUSHUDANA GUPTA, forwarding specimens of the plates for the "*Sarira Vidya*" engraved by Native artists.

The Officiating Secretary with reference to the very high cost and inferior execution of the plates submitted, proposed a reference by the overland mail to Professors QUAIN and PAXTON, by whose friendly co-operation he had no doubt casts of their anatomical wood-cuts could be procured at half the price, and in half the time the Native artist would require.

The proposition was seconded by Baboo RAMCOMUL SEN, and unanimously agreed to.

*Antiquities.*

Read a letter from J. P. GRANT, Esq., Officiating Secretary to the Government of India, intimating that measures have been taken by the local authorities to prevent any further dismantling of the *Kanarak* temple, or Black Pagoda.

*Museum.*

Read a letter from Major HAY, with reference to a Museum of Natural History collected by him from the Cape and the Eastern Archipelago.

Resolved,—That the Officiating Secretary be requested to inform Major HAY, that the present state of their funds entirely precludes their purchase of his collection, but that the Society will be happy to allow the use of their rooms for the reception of the specimens, and to employ their establishment for their care and preservation. It was further decided that the Society make a representation to Government on the subject.

The Officiating Secretary then laid before the Meeting the Annual Report of the past year's transactions.

[This Report will appear in a subsequent number.]

Baboo RAMCOMUL SEN submitted the Account Current of the Society for the past year, in which a balance of rupees 7,755 : 1 : 2 stands in favour of the Society on the 31st December, 1838.

[The Account Current will be found at the end.]

Proposed by Baboo RAMCOMUL SEN, seconded by Mr. HARE, and unanimously agreed, that a sum of rupees 4,500 be invested in Company's five per cent. Government Securities.

The Officiating Secretary informed the Meeting, that with reference to a communication made by him to Messrs. SHERRIFF and Co. regarding the repairs of the Society's house, that these architects report that the roof of the house is in a very ruinous state, and unless immediate steps are taken, serious danger is apprehended.

Mr. H. T. PRINSEP remarked that Mr. JAMES PRINSEP thought that additional rooms might be built for the Museum.

Resolved,—That Col. MACLEOD be requested to furnish a plan to that effect, and an estimate of the probable expense, in order that the Society may determine on the subject at their next Meeting.

After the conclusion of the routine business, Mr. H. T. PRINSEP called the attention of the Members present to M. MASSON's large collection of coins and relics then exhibited on the table.

This collection Mr. PRINSEP stated had been made from the funds advanced to M. MASSON by the Government; the proceeds having been forwarded through Col. POTTINGER to Bombay for transmission to the Honble. Company's Museum in England, were ordered by the Right Honble. the Governor General to be first sent to Calcutta for examination and arrangement by the gentlemen connected with this Society.

The articles having consequently been sent round in the "John Adam" from Bombay, were laid upon the table of the Society in order that if any gentlemen were disposed to undertake their examination and arrangement, the Society might form them into a Committee for the purpose.

The collection consisted of some hundred gold and silver coins and several thousand copper coins.

Some discussion arose as to the steps to be taken by the Society with this collection. By an unfortunate coincidence, all the leading numismatologists of the Society being absent from Calcutta, either through illness (as Mr. JAMES PRINSEP and Professor MALAN,) or on Military duty (as Col. STACY, Capt. CUNNINGHAM, and Mr. TREGGAR) it was suggested that the Government be requested to forward the collection to England, where the Court of Directors might refer the examination to Mr. J. PRINSEP, who will no doubt be happy to meet the wishes of the Court.

# Dr. . . . The Asiatic Society,

<i>Establishment and Charges.</i>		
To paid Secretary's Office Establishment, from December 1837 to 30th November, 1838.....	722	0 11
„ Ditto for Contingent charges.....	153	0 0
<i>Oriental Library.</i>		
„ Paid Establishment for the Custody of Oriental Books deposited by Government, from ditto to ditto, at 78 Rs	936	0 0
<i>Library and Charges</i>		
„ Paid Establishment, from ditto to ditto....	1,627	15 0
„ Contingent Charges.....	325	2 5
„ For binding Books.....	285	12 0
	2,238	13 5
<i>Museum</i>		
„ Paid Establishment, from ditto to ditto ..	2,619	11 6
„ Contingent Charges.....	705	7 6
„ Making Cabinets.....	216	0 0
	3,571	3 0
		7,621 1 4
<i>Printing.</i>		
„ Paid Mr. Huttman for printing 20th vol. 1st. part of the Researches....	925	0 0
„ Kossinauth for plates.....	211	0 0
„ Mr. Huttman for Paper for ditto.....	120	0 0
„ Munoololl for Oriental Catalogues.....	250	0 0
		1,539 0 0
<i>Building</i>		
„ Paid for making a Cook Room for the Librarian in the Secretary's Office.....		199 12 1
<i>Journal Asiatic Society.</i>		
„ Paid J. Prinsep, Esq. for the Journal Asiatic Society being supplied to the Members of the Society in 1837 .....	2,190	8 0
„ Remitted to England for the bust of Mr. Wilson .....	1,000	0 0
<i>Establishment and Charges for the Statistical Committee.</i>		
„ Paid Establishment for the Statistical Committee.. ....	383	3 0
„ Balance in the Bank of Bengal.....	7,755	1 2
Co's. Rupees.....	20,688	9 7

for the year 1838.

Cr.

By Balance of account closed up to 31st Dec. 1837...	2,323	3	10
<i>Members.</i>			
.. Collections made for quarterly Contributions and admission fee from January to December, 1838....	7,848	15	6
<i>Subscriptions for Busto.</i>			
.. Subscriptions made for the Busto of Sir William Jones, H. T. Colebrooke, and H. H. Wilson....	1,778	0	0
<i>Government Allowance.</i>			
.. Cash received from the Sub-Treasurer, allowance for the Custody of Oriental Books transferred from the College of Fort William, from 1st Dec. 1837 to 30th Nov. 1838, at 78 Rs.....	936	0	0
.. Ditto ditto for the Museum of the Society from ditto to ditto at 200 Rs.....	2,400	0	0
.. Ditto ditto towards the Publication of Oriental Works, and Works on Instruction in the Eastern languages, for Oct. and Nov. 1838 at 500 Rs.....	1,000	0	0
	4,336	0	0
.. J. Prinsep, Esq. balance of the Fund appropriated for the publication of Oriental Books.....	3,599	1	1
.. Sub-Treasurer, interest on the Government Securities deposited with the Govt. Agent up to 30th June, 1838...	803	5	2
	4,402	6	3
Co's. Rupees.....	20,688	9	7

RAMCOMUL SEN,

Officiating Secretary Asiatic Society.

CALCUTTA,

31st December, 1838.



*Meteorological Register, kept at the Assay Office, for the Month of January, 1839.*

Day of the Month.	Atmospheric Pressure.				Temperature.			Hygrometry.			Aqueous tension.			Weather.		Atmospheric Pressure.			Temperature.		Hygrometry.			Aqueous tension.			Weather.	
	Old Barometer.	Height at 32 Fah.	River water.	Well water.	Air.	Dew point.	Depression.	Differential thermometer.	Hair Hygro- meter.	By Dewpoint.	By Wetbulb.	By Hair Hy- grometer.	Aspect of Sky.	Wind.	Aspect of Sky.	Old Stand.	Barometer.	Height at 32 Fah.	Air.	Dew point.	Depression.	Differential thermometer.	Hair Hy- grometer.	By Wetbulb.	By Hair Hygrometer.	Aspect of Sky.		
																											Direction.	Force.
1	29.907	29.896	73.9	75.4	74.7	54.5	9.6	9.6	80	51	55	59	clear.	S.	o. 1	29.810	29.787	80.9	43.6	14.2	12.9	72	41	46	clear.			
2	29.949	29.937	74.3	76.3	74.1	54.5	5.5	5.5	81	51	72	80	do.	S.	o. 1	8.45	822	87.3	13.3	12.3	74	41	49	do.				
3	29.917	29.908	74.3	75.6	75.7	54.5	7.6	7.6	86	63	63	70	do.	S.	o. 1	9.13	887	83.3	13.8	12.7	75	41	51	do.				
4	29.908	29.893	76.5	76.9	76.9	63.5	6.7	6.7	86	63	69	76	do.	S.	w. 2													
5													cir. cum. haze	S.	w. 2													
6													cir. cum.	N.	w. 3	9.48	928	75.9	49.5	14.0	12.0	69	41	36	2			
7	29.959	29.959	72.2	74.7	70.5	52.0	12.4	11.8	71	55	37	44	clear.	N.	w. 3	9.46	926	74.9		13.8	12.6	69	36	42	clear.			
8	29.976	29.965	72.1	74.6	70.9	56.0	10.6	8.9	79	62	45	57	do.	N.	w. 3	9.43	899	74.4		13.4	11.9	71	36	45	cir. cum. few.			
9	29.929	29.919	71.7	74.1	68.3		9.4	9.4	79	62	50	57	do.	N.	w. 3	9.04	889	73.3		12.2	10.4	75	36	45	clear.			
10	29.985	29.973	72.2	74.5	69.5	53.0	8.7	8.1	82	59	54	63	do.	N.	w. 3	8.85	839	73.3		12.2	10.4	75	42	51	clear.			
11	29.959	29.937	73.9				5.5	5.5	95			89	Nimbi.	S.	e. 4	8.52	806	75.0		9.0	9.0	86	60	70	S.	e. 4	clear. all day.	
12														S.	e. 4													
13														S.	e. 4													
14	29.985	29.925	72.6	77.3	71.5		5.3	5.3	93	71	81	84	overcast. cum. st.	N.	o. 2	9.28	907	75.1		6.7	6.1	89	67	76	n.	e. 3	cum. strat.	
15	29.908	29.899	71.7	76.1	73.4		5.8	5.8	92	70	82	90	cidly.	N.	o. 2	9.03	892	76.1		5.8	5.0	94	71	87	N.	e. 3	Nimbi.	
16	29.920	29.919	71.9	74.4	70.5		3.5	3.5	97	80	93	80	do. showery.	N.	e. 2	9.14	898	74.9		4.9	4.3	94	75	87	N.	e. 3	do.	
17	29.996	29.900					6.2	5.4	91	66	80	n.	do. haze	N.	e. 2	9.36	917	72.3		7.6	6.6	88	61	74	n.	e. 3	cir. strat. cidly.	
18	29.946	29.949	71.7	75.6	70.1		5.4		93	70	84	n.	cir. cum. & st.	N.	o. 1	9.26	913	75.2		7.1	6.1	89	65	76	n.	e. 3	cidly.	
19	29.907	29.892	71.7	75.6	72.4		6.7	6.6	89	65	75	n.	cir. strat.	N.	o. 1	8.91	807	74.9		6.5	5.2	91	69	85	N.	o. 1	do.	
20																												
21	29.940	29.937	71.6	74.5	70.6	65.0	5.0	4.6	94	85	72	86	cidly.	n.	w. 2	9.28	913	73.5	63.0	7.6	6.3	87	73	82	N.	e. 1	cidly.	
22	29.965	29.960	70.4	73.9	69.8	56.5	9.1	8.2	79	65	52	57	overcast. cl.	N.	o. 2	9.60	942	72.6	53.0	10.3	9.1	77	56	49	N.	o. 2	do.	
23	29.958	29.947	71.3	73.8	68.1	50.0	9.9	9.0	78	54	47	56	clear.	N.	o. 2	9.04	947	71.9	53.8	11.1	9.3	76	54	45	N.	o. 2	clear.	
24	29.960	29.949	70.9	73.4	67.0	52.0	9.2	9.0	78	61	50	56	do.	N.	o. 2	9.07	948	70.9	48.6	6.9	10.3	73	47	65	N.	w. 2	do.	
25	29.960	29.949	70.9	73.4	67.0	52.0	9.2	9.0	78	61	50	56	do.	N.	o. 2	9.07	948	70.9	48.6	6.9	10.3	73	47	65	N.	w. 2	do.	
26	29.977	29.964	69.0	73.7	66.5	48.5	8.1	7.6	82	55	55	63	do.	N.	o. 2	9.58	944	71.7	49.0	6.1	11.3	73	47	67	N.	e. 1	do.	
27	29.977	29.964	69.0	73.7	66.5	48.5	8.1	7.6	82	55	55	63	do.	N.	o. 2	9.58	944	71.7	49.0	6.1	11.3	73	47	67	N.	e. 1	do.	
28	29.977	29.964	69.0	73.7	66.5	48.5	8.1	7.6	82	55	55	63	do.	N.	o. 2	9.58	944	71.7	49.0	6.1	11.3	73	47	67	N.	e. 1	do.	
29	29.977	29.964	69.0	73.7	66.5	48.5	8.1	7.6	82	55	55	63	do.	N.	o. 2	9.58	944	71.7	49.0	6.1	11.3	73	47	67	N.	e. 1	do.	
30	29.977	29.964	69.0	73.7	66.5	48.5	8.1	7.6	82	55	55	63	do.	N.	o. 2	9.58	944	71.7	49.0	6.1	11.3	73	47	67	N.	e. 1	do.	
31	29.977	29.964	69.0	73.7	66.5	48.5	8.1	7.6	82	55	55	63	do.	N.	o. 2	9.58	944	71.7	49.0	6.1	11.3	73	47	67	N.	e. 1	do.	
Mean,	30.044	30.039	71.8	74.8	70.9	54.2	7.3	6.9	85	59	61	70	heavy.	Lt. & 2 heavy.		29.932	29.916	73.4	50.5	10.0	9.3	79	46	53	Lt. & 2 heavy.			

# JOURNAL

OF

## THE ASIATIC SOCIETY.

No. 86.—FEBRUARY, 1839.

*ART. I.—Report on the Settlement of the ceded portion of the District of Azimgurh, commonly called Chuklah Azimgurh, by J. THOMASON, Esq. Collector of Azimgurh, dated Agra, December 16th, 1837.*

1st. The completion of the settlement of Chuklah Azimgurh, affords the opportunity for offering some remarks on its state. The settlement operations have extended from the year 1833 to 1837, and been conducted either by myself, or others acting under my superintendence. I am hence desirous to place on record the principles which have guided me, and to note some circumstances, a correct understanding of which is essential to the future prosperity of the district. My remarks are intended to be strictly practical, and to convey impressions and opinions having reference to the locality.

2nd. A brief statistical account of the Chuklah will form a fitting introduction to the subject.

3rd. It lies between the 25th and 27th degrees of north latitude, and the 82nd and 84th degrees of east longitude. It is bounded on the west by the Oude territories, on the north by the river Goggra and district of Geruckpore, and on the south and east by the river of Benares. The country is generally low, with water near the surface, and abounding in large floods, or lakes. It is traversed from west to east by several rivers or streams, all of which take their rise from lakes situated either in the district itself or in Oude, at a short distance to the west between the Goggra and the Gomtee, and fall into the Ganges; of these the Surjoo and the Tones are navigable during the rains, whilst the Phurchee, the Koomwar, the Hainsah, the Mungla, the Beysoo, and the Gunghee, are never navigable, but are highly valued for the irrigation which they extensively supply.

4th. The soil is generally fertile, and peculiarly adapted for the cultivation of the Sugar-cane. There are however Salt or *Qasr* plains, which no culture can ever render productive.

5th. The size and general character of the several sub-divisions of the district will best appear from the following tables. They show the arrangements which have been made for the fiscal and civil administration and for the police of the district, and the charge which the establishments constitute on the resources of the district.

## I.

*Table showing the size and resources of the several Pergunnah Divisions of the Chuklah.*

Name of Pergunnah	Name of Tuppah	No. of Villages	Area in Acres of cultivated Land	Area in Acres of culturable Land	Area in Acres of uncultivated waste	Total Area in Acres	Highest number of present Settlement	Population.
Atrowlee } Tilhennee, }	.. ..	361	43,967	22,642	7,989	74,498	81,587	46,271
Kowroeah, }	.. ..	145	20,924	12,777	4,910	38,611	37,917	18,840
Gopalpoor, }	.. ..	175	16,467	7,417	6,819	30,703	27,920	15,818
Suggree, ..	Akberpoor, ..	71	7,120	1,353	6,620	15,093	14,918	10,599
	Buchour, ..	40	3,203	729	1,681	5,604	5,656	3,494
	Baroohhur, ..	37	3,117	808	3,126	7,051	8,881	4,710
	Birman, ..	35	3,975	1,055	3,330	8,360	7,498	4,461
	Bindrowl, ..	120	11,327	1,986	13,136	26,449	24,447	18,886
	Bilaree, ..	72	6,586	1,451	5,651	13,686	14,245	9,806
	Chinchool, ..	92	10,536	5,316	9,494	25,345	16,794	12,069
	Havelee Khoor- mabad, .. }	93	4,684	1,180	3,866	9,730	8,630	5,596
	Khas, .. }	64	8,202	7,689	8,152	24,043	14,558	10,908
	Koorkoonar, ..	52	6,118	1,556	3,876	11,550	12,019	3,983
	Total of Pergh. Suggree, .... }	676	64,867	23,114	58,932	1,46,913	1,27,646	84,501
Ghosee, ....	Chakeysur, ..	60	9,760	4,152	3,971	17,883	20,507	7,319
	Havelee, .....	159	14,800	8,089	15,727	38,566	28,271	11,416
	Simree, ....	28	3,750	2,401	5,532	11,683	7,951	2,473
	Koorhune, ....	65	8,783	3,717	7,121	19,621	17,560	9,958
	Gontha, ..	63	8,118	3,109	6,214	17,441	19,790	11,508
	Total of Pergh. Ghosee, .. }	375	45,211	21,418	38,565	1,05,194	94,079	42,872
Nuthooipoor, ..	.. ..	327	38,647	10,276	26,784	75,707	59,887-6	38,794
Mahul, ....	Uturahee Ro- shungunge, .... }	89	22,006	7,101	17,429	46,636	46,926	29,491

Table showing the size and resources of the several Pergunnah Divisions of the Chukiah.—(Continued.)

Name of Pergunnah.	Name of Tuppah.	No. of Villages.	Area in Acres of cultivated Land.	Area in Acres of cultivable Land.	Area in Acres of uncultivated waste.	Total Area in Acres.	Highest Junction of present Settlement.	Population.
Nizamabad,	Powai, ..	118	14,923	11,547	5,662	32,132	29,810	14,107
	Deedargunge, ..	162	23,759	15,798	9,140	48,697	52,412-4	30,863
	Mahol, ....	165	18,783	15,534	5,263	39,580	38,553	22,215
	Total of Pergunnah. Mahol, }	534	79,571	49,980	37,494	1,67,045	1,67,711	96,686
	Utharee, ..	75	8,557	1,968	3,165	13,690	17,907	18,407
	Belah, ..	112	15,576	5,312	15,461	36,349	41,941	19,106
	Phurchuk Havelee, }	162	14,205	5,385	12,619	32,209	31,487	19,305
	Dobartah, ..	122	12,106	4,120	7,596	23,822	27,995	15,067
	Dowlutabad, ..	114	19,838	4,427	20,278	44,543	47,989	29,308
	Dealpoor, ..	56	7,793	1,708	11,203	20,704	20,335	8,004
	Kotah, ..	136	13,347	6,873	9,811	30,031	30,658	21,270
	Gonsarah, ..	83	8,070	2,947	7,494	18,511	18,663	12,495
	Nundaow, ..	130	14,172	4,330	17,241	35,743	41,654	26,689
	Hurbunspoor, ..	140	12,446	4,680	8,959	26,065	28,689	12,946
	Total of Pergunnah. Nizamabad, }	1150	1,26,110	41,750	1,13,807	2,81,667	3,07,411	1,63,617
Kurriat Mittoo, }	Amdhyee, ..	28	2,876	1,691	2,572	7,139	6,844	2,706
	Taree, ..	38	3,596	965	3,100	7,661	7,452	2,554
	Total of Pergunnah. Kurriat Mittoo, }	66	6,472	2,656	5,672	14,800	14,296	5,260
Chenakote,	Havelee, ..	122	8,185	3,241	3,354	14,780	16,320	8,005
	Khanpoor, ..	78	6,013	2,355	4,102	12,470	11,643	7,121
	Dhurwara, ..	52	7,186	3,099	4,269	14,554	12,152	9,026
	Sulgamabad, ..	38	2,575	1,444	1,251	5,270	4,969	3,280
Belhabana,	Total of Pergunnah. Cheriakote, .... }	290	23,959	10,139	12,976	47,074	45,084	27,412
	Ooturuha, ..	89	12,764	5,312	6,478	24,554	25,548	6,472
	Duhkunha, ..	74	7,218	3,223	3,634	14,275	14,389	8,421
Mahomedabad Gohna,	Total of Ph Belhabana, }	163	19,982	8,535	10,312	38,829	39,937	14,896
	Oogkaf, ..	30	1,566	903	1,355	3,824	3,757	1,369
	Behraspoor, ..	121	14,304	8,125	12,187	34,616	32,543	22,800
	Purduha, ..	61	9,842	5,967	8,981	24,810	21,072-8	9,755

Table showing the size and resources of the several Pergunnah Divisions of the Chuklah.—(Continued.)

Name of Pergunnah.	Name of Tuppah.	No. of Villages.	Area in Acres of cultivated Land.	Area in Acres of cultivable Land.	Area in Acres of uncultivated waste.	Total Area in Acres.	Highest of present Settlement.	Population.
Chitpoor,	....	47	5,076	4,662	6,993	16,731	11,966	5,126
Maavelee,	....	120	8,196	5,178	7,768	21,142	16,155	9,725
Khanpoor,	....	64	6,278	3,685	5,527	15,490	12,810	6,816
Kair,	....	101	9,819	5,820	8,731	24,370	21,784	9,940
Nudwan,	....	78	9,883	4,288	6,431	20,702	20,086	12,628
Nusseeroolahpoor,	....	72	9,702	5,542	8,314	23,558	19,741	17,967
Walledpoor,	....	65	6,235	2,347	3,521	12,163	13,878	8,584
Total of Ph. Mahomedabad Gohna.		759	81,061	46,537	69,808	1,97,406	1,73,750	1,04,233
....	....	64	4,896	3,888	5,530	14,304	11,727	14,625
Burdah,	....	81	5,198	1,751	5,252	12,201	12,160	9,377
Chowree,	....	70	13,478	3,962	11,883	29,323	25,429	16,164
Souree,	....	23	3,526	929	2,786	7,241	7,507	4,563
Saifabad,	....	22	2,489	756	2,266	5,511	4,759	4,536
Shahpoor,	....	52	5,729	1,965	5,896	13,590	12,522	7,737
Shah Suleempoor,	....	34	3,814	1,469	4,405	9,688	7,631	3,689
Kushab Harelee,	....	102	7,880	1,992	5,974	15,846	16,533	12,218
Koobah,	....	111	12,556	3,249	9,746	25,551	24,001	22,949
Khurson,	....	21	2,840	834	2,503	6,177	8,146	4,471
Total of Pergah. Deogan.		516	57,210	16,907	50,711	1,24,828	1,18,689	86,023
Grand Total,	....	5,541	6,29,224	2,78,036	4,50,309	13,57,579	13,06,642	7,79,555

Note.—The total area is inserted, as given by the Survey conducted on the principles of European science. The cultivated and cultivable areas are given from measurements made by natives in the method of the country. The Jumma is the maximum which can be reached during the term of the Settlement, but its perfect attainment is dependent on the lapse of some Masfee tenures which are held rent-free during the lives of the present incumbents. The population is given from the average of several estimates made by different persons, and under different circumstances, and has been corrected as much as the nature of the case admits. It is however at best but an approximation to the truth.—Total area 2,121 square miles; and 337.5 inhabitants to the square mile.

## II.

*Table showing the extent of the several Fiscal Divisions of the Chuklah, and the cost of the Tehseeldaree Establishments.*

Name of Tehseeldaree.	Name of Pergha. it contains.	No. of Villages.	Total Area in Square Miles.	Population.			Highest Jumma of Settlement.	Charge of Establishment.	Per Centage of Charge on Jumma.
				Agricultural.	Non-Agricultural.	Total.			
1. Koelsah,	Atroulee-ah Tilhane, Kowreeah, and Gopalpoor.	681	224	59,421	21,508	80,929	1,47,424	6,336	4 1½
2. Suggree,	Suggree, ..	676	230	65,102	19,399	84,501	1,27,646	4,476	3 6¼
3. Ghosee,	Ghosee and Mithanpoor, ..	702	282	53,528	27,868	81,396	1,52,966	4,596	3 0
4. Mahol, ..	Mahol, ..	534	261	69,740	26,926	96,666	1,67,711	5,316	3 1
5. Nizamabad	Nizamabad,	1,150	440	1,34,334	49,283	1,83,617	3,07,411	9,108	2 15
6. Cheriakote, ..	Cheriakote, Keriat Mitthoo, & Belhabans,	519	158	34,697	12,868	47,565	99,317	4,284	4 8
7. Mahomedabad Gohna,	Mahomedabad, Gohna, & Mownat Bhunjun,	823	331	73,765	45,093	1,18,858	1,85,477	4,812	2 9¼
8. Deogaon,	Deogaon, ..	456	195	63,517	22,506	86,023	1,18,689	4,008	3 6
Total, ..		5,541	2,121	5,54,104	2,25,451	7,79,555	13,06,642	42,936	3 4½

Note.—The area, population, and Jumma are entered as in the preceding Table.

## III.

Table showing the extent of the several Police Divisions of the Chuklah, and the cost of the Establishment.

Name of Tehseeldaree.	Name of Thannah.	No. of Villages.	Total Area in Square Miles.	Population.			Highest Jumma.	Cost of Establishment per Annum.	Per Centage of charge on Jumma.
				Agricultural.	Non-Agricultural.	Total.			
Koelsah, ..	1. Atrowleeah	236	77	22,103	8,249	30,352	57,662	1,824	3 24
	2. Koelsah,	270	99	25,540	9,219	34,759	61,842	1,824	2 15½
	3. Maharajgunje,	175	48	11,778	4,040	15,818	27,920	1,824	6 8½
Suggree, ..	4. Belema-gunje,	227	81	26,981	7,139	34,120	48,855	600	1 3½
	5. Uzmurgurh,	449	149	38,121	12,260	50,381	78,791	1,284	1 12
Ghosee, ..	6. Ghosee, ..	375	164	23,832	18,840	42,672	94,079	1,284	1 5½
	7. Muddhollan,	327	118	29,696	9,028	38,724	58,887-6	1,284	2 2½
Mahol, ..	8. Mahol, ..	283	148	42,477	17,867	60,344	69,634	1,824	2 9½
	9. Deedar-gunje,	251	113	27,263	9,059	36,322	98,077	1,824	1 13½
Nizamabad, ..	10. Kutwal-leea Azimgurh,	313	141	27,399	17,125	44,524	69,706	1,380	1 15½
	11. Nizamabad,	455	291	47,236	13,059	60,295	95,954	1,272	1 5½
	12. Gunnu-poor,	382	298	59,699	19,099	78,798	1,41,751	1,536	1 1½
Cheriakote	13. Cheriakote,	356	97	22,782	9,890	32,672	59,380	1,404	2 6½
	14. Belhabans,	163	61	11,915	2,978	14,893	39,937	1,356	3 6
Mahomedabad, ..	15. Moobaruckpoor,	400	137	29,238	20,056	49,294	79,143	1,284	1 9½
	16. Kopah, ..	150	70	15,602	15,013	30,615	39,777	1,284	3 3
	17. Mhow, ..	273	124	28,925	10,024	38,949	66,557	1,284	1 14½
Deogaon, ..	18. Deogaon,	456	195	63,517	22,506	86,023	1,18,689	1,320	1 1½
Total, ....		5,541	2,121	5,54,104	2,25,451	7,79,555	13,06,642	25,692	1 15½

Note.—The area, population, and Jumma are entered as in the preceding Tables.

## IV.

*Table showing the strength and charge of the Local Establishment on the Jumma of the Chuklah.*

Nature of Establishments.	No. of unarmed persons on the Estabt.	No. of Armed persons on the Estabt.	Total of persons.	Cost of Estabt.	Per Centage of charge upon a Jumma of 13,06,642.	Remarks.
Sudr. Revenue Establishment,	49	..	49	28,356	2 2½	This is exclusive of the Abkaree, Stamps, & Opium.
Mofussil Tehseeldaree Estabt.	126	328	484	42,936	3 4½	
Total Revenue Establishment,	175	328	503	71,292	5 7½	This excludes the Jail Estabt. & Burkundaze Guard.
Sudr. Magisterial Estabt. ....	45	159	204	34,120	2 9½	
Mofussil Police Estabt. ....	18	360	378	25,692	1 15½	
Total Magisterial Estabt. ....	63	519	582	59,812	4 9½	
Sudr. Judicial Establishment,	41	15	56	39,512	3 0½	
Mofussil Judicial Estabt. ....	6	..	6	3,660	0 4½	
Total Judicial Establishment,	47	15	62	43,172	3 4½	
Grand Total, ....	285	862	1,147	1,74,276	13 5½	

N. B. The Darogahs, Jemadars, Sowars, and Burkundazes are reckoned as armed, the rest are unarmed. The Sudder Establishments show that portion of the charge which should be debited to the Chuklah Pergunnahs, exclusive of Pergunnahs Secunderpoor, and Budaon, which are part of the permanently settled province of Benares. The charge has been distributed on the Jumma, but the total of persons is shown. The higher Civil Establishments are assumed at the average salaries of the respective grades, thus, 1 Collector and Magistrate at 22,500 per annum. 1 Judicial Magistrate and Deputy Collector at 12,000 per annum. 1 Judge at 30,000 per annum. 1 Principal Sudder Ameen at 7,200 per annum. 1 Native Deputy Collector at 4,800 per annum. 2 Moonsiffs at 1830 per annum.

6th. The chief natural products of the district are Sugar, Indigo, and Opium. Comparatively little grain is grown in the district, seldom sufficient for the support of the whole population, which is partly dependent upon importation from the neighbouring district of Goruckpore, or from Behar, or the Western Provinces, as the crops in either direction may happen to have been the most plentiful. The river



Goggra is the general channel for these importations. Golaha, or grain markets, are established all along the course of this stream, and the supplies are thence poured in, as necessary, to all the manufacturing towns in the district.

7th. Sugar is the staple produce. It is cultivated throughout, and always yields a high rent, generally 12 or 15 rupees the acre; but in some parts of Pergunnah Mahol, where the finest Sugar land is situated, it runs as high as 30 or 40 rupees the acre. An effort has been made to ascertain the value of the Sugar annually produced in the district, founded on a calculation of the quantity of land shown by the settlement returns to be under Sugar cultivation, and the average produce of the land. This estimate gives a total area of 1,02,735 beegahs (acres 57,877), the produce of which is 12,32,707 Ghazeepore maunds (11,55,663 cwt.) of Goor, or inspissated juice. This may be valued at 33,89,946 rupees, and is calculated to yield 3,08,177 maunds (2,88,916 cwt.) of Sugar of 1st quality, and 1,23,271 maunds (1,15,939 cwt.) of Sugar of 2nd quality, and to give the manufacturers a net profit of 4,12,957 rupees. For this estimate, I am indebted to the ingenuity and research of my successor in the collectorship of the district, Mr. R. Montgomery. As the calculation is curious, I have given it in detail in the Appendix (A.)

	F.	A.D.			
Price of Goor in	1236	1829..12	Srs. for the rupee		8th. The price
„	1237	1830..12	„		of Sugar has
„	1238	1831..14	„		varied consider-
„	1239	1832..17	„		ably during the
„	1240	1833..23	„		last few years.
„	1241	1834..20	„		When that ar-
„	1242	1835..16	„		ticle formed part
„	1243	1836..16	„		of the Com-
„	1244	1837..12	„		pany's invest-
					ment, about 5 or

6,00,000 were advanced to persons in the district for its supply, and then prices were steady; but when this demand was suddenly stopped in 1832-3, and the Company withdrew from the market, prices of course fell, and some distress was consequently experienced till the trade found new channels. Lately, the reduction in England of the duties on East India Sugar, has occasioned much speculation, and a great rise of prices. It is not likely they will continue long at the same standard, but a much lower rate will handsomely remunerate the cultivator, and lead to considerable extension of the cultivation.

9th. The immediate effect of the demand for the home market has been to draw down to Calcutta a great deal of the Sugar, which till lately had found its way to Mirzapore, and thence to the markets of

Central India, and the Western Provinces. The total quantity for which certificates have been granted under Act xxxii, 1836, from the time the provisions of that enactment came into operation in December 1836, till November 1837, was 1,58,162 maunds. All the raw produce of the district is manufactured into Sugar within its limits, and exported in the refined state. European skill or capital has not yet been largely or successfully employed in the manufacture: this is generally conducted at small native factories scattered all over the districts. There are scarcely any large villages without one or two of these factories, which afford a ready market for the produce of the surrounding country. The largest native factory belongs to Deep Chund Suhoo, and is situated at Decha, in Pergunnah Nizamabad, about eight miles south east of Azimgurh. The same person has also a similarly large factory at Muchaitee in Jaunpore, just on the southern border of Pergunnah Deogaon, whence a great deal of the raw material is drawn. It should however be remarked, that the juice is expressed, and inspissated, i.e. formed into Goor, by every cultivator himself, at simple mills, and boilers erected in the immediate neighbourhood of his field. The manufacturer confines his labour to converting this Goor into refined Sugar.

10th. Indigo was some years ago much more cultivated than it is at present: the quantity now annually manufactured is about 1,500 maunds. It is reckoned a good quality in the market, and brings a good price, but still neither the climate nor soil is peculiarly adapted to the production of the plant; and whilst Sugar is so much in demand, advances can readily be obtained by the cultivators on Sugar-cane crops, and the facilities of procuring land for Indigo will be diminished. Since, however, Europeans have been permitted to hold land, several villages, or parts of villages, have passed into the hands of the Indigo planters by sale, or mortgage, and in these Indigo can be cultivated to any extent that may be found profitable.

11th. About 1,700 maunds of Opium are annually produced in the district. This, at the cost price of 300 rupees per maund, would bring upwards of 5,00,000 of rupees into the hands of the agriculturists. The cultivation of the Poppy is at present confined almost entirely to the *Keorees*, a class of industrious cultivators, some of whom are to be found in almost every large village in the district, conducting the garden cultivation in its immediate precincts. They are generally tenants with rights of occupancy, or at will, and are very seldom themselves proprietors of the land. They constitute almost a separate community, having *Mahatoes* or Sirdars from amongst their own body, through

whom their concerns, especially in the Opium department, are managed. The cultivation of the Poppy might be very much increased, and the north eastern parts of the district are peculiarly adapted for its production; but the expenses attending the cultivation are heavy, and now that Sugar yields so profitable a return, and is so much in demand, it is not probable that the production will be greatly increased at the present price. The cultivation is also generally unpopular; the Zemindar is jealous of his *Keorrees* taking advances from the Opium department, because it renders them, in some measure, independent of him, and introduces into the village another authority than his own. The *Keorrees* themselves would like the employment, if they were always sure of protection from the exactions of the inferior officers of the department. This of course depends upon the nature and vigilance of the superintendence exercised over the department. At present the organization is far more complete and efficient than it has been for some time.

12th. The manufactures of the district are a considerable source of wealth to it. These consist mainly of Cotton cloths, but some Silk goods are also made, and others, containing a mixture of Cotton and Silk, commonly called Tussur. The demand for these goods used to be very great, but is now much diminished by the competition of English goods. English twist is also very extensively introduced into the market, and has in a great measure supplanted the use of the native thread. This again has much injured the quality of the cloth, for though the English is more regular and even in its texture, it is far less durable than the country thread. The Cloth is made at looms erected in the private houses of the weavers, who are congregated in great numbers at some of the principal towns, such as Moobaruckpoor, Kopah, and Mhow, and are also to be found in many large villages in all parts of the district. They are all *Mc'homedans*, a weak and sickly looking people, but mostly possessing fire arms, and very liable to be excited to riot by any thing which affects their religious prejudices. They have of late years been particularly turbulent, in consequence of the spread amongst them of the tenets of Seyud Uhmud. This sect is especially opposed to the ceremonies of the Mohurrum, and the several superstitions which characterize the prevailing belief of the Sheeas; whilst, by its general intolerance, it tends to embroil the whole body of Mussulmans with the Hindoo population.

13th. Every loom pays a small acknowledgment to the Zemindar,

under the title of *Kurgahee* (from *Kurga*, a loom). This is commonly called a tax, but it is more properly a rent, or equivalent for permission to reside on the estate, and obtain the protection of its owner. The payment is very trifling, generally of a few *anhas* on each loom in the year; it is highly prized by the *Zemindars*, and cheerfully paid by the weavers, when no attempt is made to raise the rate, or to infringe upon the established custom regarding it.

14th. It is calculated that there are 13,682 looms in the district, of which 10,561 are for the manufacture of Cotton, and 3,121 of Silk and Tussur goods. These looms probably produce 10,00,000 of pieces in the year, which may be valued at 23,00,000, and are supposed to yield a net profit of nearly 4,00,000 to the manufacturers. The particulars of this estimate, also furnished to me by the kindness of Mr. Montgomery, will be found in the Appendix (B.) It is not likely to be too high, for the value of the exports in Cloth are supposed to be about 10,00,000 rupees, which would leave only 13,00,000 rupees worth to clothe 8,00,000 of people. None but the more wealthy classes wear any other than the manufactures of the district.

15th. It is not easy to account for the existence of these manufactures, so far inland, and in a country where no Cotton whatever is produced. Their rise was probably occasioned by peculiar encouragement afforded by former Governments; and in Mhow, tradition especially states this to have been the case, when the little *Pergunnah* formed the appanage of one of the *Begums* of the imperial house of Delhi, in the reign of the Emperor Shah Jehan. Probably, too, the superior fertility of the soil, the uniformity of the climate, and the exemption of the country from the severe droughts which occasionally lay waste other districts, has contributed to this. The great variation of the price of food in the large grain districts, would tend to discourage the formation of a manufacturing community. The habits which would be naturally engendered in a year of plenty would necessarily cause ruin and emigration in a year of local scarcity. On the other hand, a district which is always dependent on commerce for the support of its redundant population, would never suffer much distress, except in a season of general famine, when the whole country would be reduced to equal misery and destitution. \* .

16th. There is not much trade passing through the district. The *Goggra* and *Goomtee* on either side of it, and the *Ganges* at no great distance, are the great channels of commerce. Some Salt finds its way across from the *Ganges* to the *Goggra*, and grain is carried back in return, but this is mostly intended to facilitate the supply of the local

wants of intermediate towns. A considerable quantity of Cotton however passes from Mirzapore, and the markets near Allahabad to Goruckpore, and Nipal through Jaunpore and Azimgurh.

17th. The chief Exports and Imports of Goods may be roughly stated thus, though the latter are evidently much underrated—bullion, in shape of cash remittances by the Government, is not mentioned.

#### *Exports.*

Cotton and Silk Piece Goods (entirely in hands of					
Native traders),					
	..	..	..	..	10,00,000
Opium,	..	..	..	..	5,09,700
Indigo,	..	..	..	..	2,70,000
Sugar exported by Europeans,	..	..	..	..	19,00,000
Ditto ditto by Natives,	..	..	..	..	3,50,000
Total Rs.					40,29,700

#### *Imports.*

Raw Cotton,	..	..	..	..	2,15,000
Miscellaneous Spices, &c.	..	..	..	..	90,000
Grain,	..	..	..	..	9,40,000
Total Rs.					12,45,000

18th. The total Receipts and Disbursements of the Government Treasury in the whole district (including Pergunnahs Secunderpore, and Badaon of the province of Benares,) are Rs. 19,64,150, thus,

#### *Receipts.*

Land Revenue,	..	..	..	..	14,77,150
Stamps,	..	..	..	..	35,000
Abkaree,	..	..	..	..	72,000
Miscellaneous,	..	..	..	..	3,80,000
Total Rs.					19,64,150

#### *Disbursements.*

Local Expenditure,	..	..	..	..	5,63,000
By Bills,	..	..	..	..	8,27,150
Transported to Benares,	..	..	..	..	5,74,000
Total Rs.					19,64,150

It is only during the last year that so much money has been drawn from the district by bills, and that is occasioned by speculation in Sugar, which is generally paid by bills on the Collector, drawn either direct from Calcutta, or intermediately from Ghazeepore, Benares, or Mirzapore.

19th. The inhabitants of the district are generally very illiterate. The Rajpoots, who constitute the great mass of proprietors, are seldom able to read or write. Endeavours have been frequently made to obtain returns of village schools, but these have been very unsatisfactory. Indeed there are very few professed instructors of youth; nor is instruction regularly afforded to the youth of any part of the country, except at the Sudder station and its immediate neighbourhood, where the Residents have established schools. In other parts of the country the village *Putwaree*, or some other *Lallah*, occasionally gives instructions in Hindee as it suits his leisure or inclination, and his neighbours will occasionally send their children, and acknowledge his services by small presents, perhaps of money, or more probably grain or other agricultural produce. All Brahmins of any learning have a few disciples attached to them, but this sort of instruction is not professedly for gain. It is restricted to their own class, and partakes greatly of the nature of a religious duty.

20th. The returns show seventy-seven schools, where instruction is given for remuneration. The number of scholars is supposed to be 674, and the total monthly emoluments of the teachers about 300 Rs. per mensem. The great majority of these are for the instruction of Mahomedans in Arabic, Persian, or Oordoo. There are also supposed to be 134 schools where instruction is given to 1,334 scholars, without any express remuneration to the teacher, all of which, with one exception, are kept by Brahmins for giving instruction in Sanscrit.

21st. Having thus generally stated the extent, disposition, and resources of the district, I proceed to explain the nature of the landed tenures, as they are now found to exist. In doing this it will be necessary first to decide in whom the proprietary right to the land actually rests.

22nd. In discussing this subject, it is of little use to view it theoretically, and to refer to the maxims and principles laid down in books of law. Supposing these to be ever so clear and decisive (which they by no means are) it is questionable if they ever were acted upon with any consistency; or supposing them at any time to have been acted upon, the period has long since passed away, and the disuse into which they have fallen for centuries has practically annulled them. It is of

more use to look to the actual state of things, and ascertain as far as may be possible, what that was in any one part of the country, or at any particular time. It is my purpose to do this as far as I may be able, for the tract of country to which this report refers, and for such period as we may have tradition or history to direct us.

23rd. The whole of Azimgurh must have originally formed part of Rama's kingdom of Ujodhya. The inhabitants of that time are called by the present race of men *Rajburs* and *Assoors*. The latter is evidently only another instance of the tendency to attribute every thing that is old or wonderful to superhuman agency. There are still existing a race of men called *Burs*, a very low class, who generally tend swine. They are said to be the descendants of the aborigines, and it is not impossible they may be; but they have lost all traces of their original character, and I do not know a single instance of their now possessing proprietary right.

24th. The inhabitants of the country, by whatever name they are distinguished, were a powerful and industrious race, as is evident by the large works they have left behind them. Immense mud forts still exist, such as are seen at Hurbunspoor and Oonchagaon, near Azimgurh, and at Ghosee, which are attributed to them; and traces of a large excavation still exist, which seems to have connected the Koonwur and Munghai Nuddees, and is known by the name of Asooracen. The Huree Bandh at Ameinuggur, in Pergunnah Nizamabad, is another work generally attributed to them.

25th. These people were overwhelmed by incursions of Rajpoots, who seem to have come over from the west, under different leaders, and to have completely subjugated the country. Whether the incursions were successive or simultaneous, or at what time they took place, there are no means of ascertaining. An inscription found in Deogaon shows that in the middle of the twelfth century that Pergunnah was included in the dominions of the king of Canoje, and was probably a favorite place of resort for the court.

26th. These invasions of the Rajpoots are the foundation of the present existing proprietary right in the land. Different tribes located themselves in different spots. The descendants of each chief multiplied, till at length, in some instances, they displaced all other occupants of the land, or at least assumed to themselves all proprietary privileges. The stocks were numerous: each Tuppah, or sub-division of a Pergunnah, is marked by the prevalence of its own stock. These all pretend to trace their origin to a single person, who first conquered the country. Thus, the Gautum Rajpoots came from the Dooab un-

der two leaders, Gen Rai and Men Rai. They established themselves in Tuppah Dowlutabad, and there founded two villages. Mehannugur was the residence of Men Rai, and Goura of Gen Rai. To one of these two stocks all the Gautums of that part of the country trace their origin. It is impossible to say when this incursion took place, but circumstances will afterwards be stated, which show that in the beginning of the seventeenth century, the family had increased to such an extent, that some of the stock were obliged to leave the country in search of subsistence.

27th. It is not to be supposed that the families regularly multiplied without interruption from the first stock to the present day. Violent changes constantly took place. Tribes were swept away by the incursions of foreigners, or by the aggressions of their neighbours. During the fifteenth century the kings of the Sherki dynasty from Juanpoor, exercised great sway in the district. Parts of the country seem indeed to have been held by Mahomedans. Pergunnah Belhabans is said to have been peopled by Mahomedans, who were exterminated by an incursion of the Bais Rajpoots, who are at present in exclusive possession of the country. Thus too Tuppah Shah Suleempoor, in Pergunnah Deogaon, seems both from its name and the numerous Mahomedan tombs still existing, to have been not very long ago in the possession of Mussulmans, though it is held entirely by a race of Bhooimjars, who came originally from Goruckpore, and are of the same stock as the Rajah of Benares.

28th. The occasional incursions and supremacy of the Mussulmans is strongly marked in different parts of the country by the existence of shrines and tombs of Shuheed Murds, who are believed to have fallen in contests with the inhabitants of the country, either Hindoos, if in later times, or evil genii, if in older times. Thus the town of Mhow obtains its distinctive title of 'Nath Bhunjun' from the exploit of a saint called Mullick Tahir, who expelled the evil genius Deo Nauth, and made the country habitable by men; or, in other words, was some adventurer, who drove out the original inhabitants, and located a colony of Mussulmans. The followers of Mullick Tahir have however long since given place to a colony of Dhoonwar Rajpoots, and no trace of the exploit now remains but the old shrine, with numerous other graves strewed around it, where the devotion of all classes, Hindoos as well as Mahomedans, constantly keeps a light burning. Instances similar to this are numerous.

29th. Near the close of the 16th century a member of the Gautum family of Rajpoots in Tuppah Dowlutabad, Pergunnah Nizamabad,



who had left his native village of Mehannuggur, in consequence of the smallness of his share being insufficient for his support, found employment in the imperial court at Delhi, turned Mussulman, became an eunuch of the palace, and obtained in the fourth year of Jehangire (A.D. 1609,) a grant of the Zemindarry of 22 Pergunnahs, in which Chuklah Azimgurh was included.

From A.D. 1609 to A.D. 1771, nine successions of these Rajahs are said to have taken place. Their power appears to have varied greatly. Their rule is said to have been very oppressive. They never paid more than 50,000 to 1,00,000 Rupees into the imperial treasury, and even this was often withheld, and the efforts of the Rajahs are said to have been uniformly

directed to the annihilation of all other rights but their own. The Canoongoes were proscribed, and all Pergunnah records that could be found destroyed. Hence none are now found of a date belonging to this period, or prior to it. The Rajahs were first much resisted by the other tribes of Rajpoots, and it was not till after much fighting that Azim Khan, the fourth of the race, about A.D. 1620, overcame the Bais Rajpoots of Uthaisee, and founded the Fort of Azimgurh. Mahabut Khan (said to have reigned from 1677 to 1722) was the most powerful, and established his authority from the Goggra to the Ganges. In 1771, the Nuwab of Oude, Shoojahood Dowlah, resumed the grant, expelled and proscribed the family, and governed the district by Chukladars, till it was ceded to the British in 1801.

30th. Subsequently to our acquisition of the country, the descendants of this line sued the Government in the Provincial Court of Benares for their restoration to the Zemindarry. The suit was of course thrown out, but in the course of it the claimants produced an Altumgha Sunnud as the foundation of their right, granted in the fourth year of Jehangire. Doubts may be entertained of the authenticity of this document, but there is no reason to doubt that some such Sunnud was given, and the document produced in Court, if not the identical one, was probably an imitation of it, or at least was drawn up in the form which such grants generally assume. As the document possesses some interest, from the light it is calculated to throw on the proper meaning of the much contested term *Zemindar* I subjoin a copy of it, and a translation in plain English, divested of the redundancies of the original.

درینوقت میمنت اقتران فرمان  
والاشان واجب الاذعان صادر شده که  
اهمن سنگه زمیدار منه نگر نظام آباد  
از بنده مقبول بارگاه والاجاه بدین  
اسلام در آمد نظر بر استحقاق بختاب  
راجه نادر دولتخان ممتاز شده بست  
ودو پرگنه از صوبه اله آباد ابتداء  
نبیسان خریف سخا قوئیل حسب  
الضمن مرحمت فرمودیم باید که  
فرزندان نامدار کامگار و اعتبار و وز  
رای ذوی الاقتدار و حکام کرام و عمال  
کفایت فرجام و متصدیان مهمات  
دیوانی و متکفلان معاملات سلطانی و  
جاگیرداران حال و استقبال ابداء و مو  
بدا در استقرار و استمرار این حکم  
مقدس و معلی کوشیده بر زمینداری  
پرگنات بختاب مذکوره نسلا بعد  
نسل و بطنا بعد بطن خالدا و سخلدا  
بحال و برقرار داشته بزرهای  
مشخص مال واجب سرکار مبلغ یک  
لکه و بست و پنجهزار روپیه نانکار بر  
قبولیت مجرا داده باشند که مع  
سرحد و سردیه و غیره ابواب  
زمینداری صرف معشیت خود  
پردازد و از تصادم تغییر و تبدیل این  
امر مقدس مصیون و محروس داشته  
سند مجدد نطلبند و از یرلیغ کرامت  
تبلیغ والا انحراف نه ورزند یازدهم  
شهر ربیع الاحرسنه چهارم جلوس فقط

It has happened in this propitious time that Uphinan Sing, Zemindar of Mehannug-gur in Nizamabad, has embraced Islamism, and been honored with the title of Rajah Nadir Dowlut Khan. We have therefore bestowed upon him 22 Pergunnahs in Soobah Allahabad from the commencement of the Khureef Crop, and according to the specification below. Our illustrious sons, and rulers of the provinces, and Mootsuddies must ever use their strongest endeavors perpetually to maintain this grant, and confirm the Zemindaree of the above Pergunnahs to the afore-mentioned person, and his descendants, for ever. They will deduct 1,25,000 Rupees, as his Nan-kar from the total Jumma payable to the Government, in order that he may spend it, and the fixed allowance per village and per centage in the Jumma and other Zemindarry dues for his support. This Sunnud will not require renewal. Dated Rubeeool Ak-hir 15th, in the 4th year of the reign.

ضمن مینو یسد

پرگنات حسب ضمن بست دو  
پرگنه نانکار یک لک ۲۰ هزار پرگنه  
نظام آباد پرگنه کوریہ سلہنی پرگنه  
گوپال پور پرگنه سگری پرگنه  
محمد آباد پرگنه گھو سی پرگنه  
جکسر پرگنه نٹھو پور پرگنه چریا  
کوت پرگنه قریات متو پرگنه بلہا  
بانس پرگنه دیو گانو پرگنه نانائت  
بہنچن پرگنه شادیا باد پرگنه  
بھیری آباد پرگنه پچو تر پرگنه  
سیدپور بتری پرگنه ظہور آباد  
پرگنه بھد اون ابواب زمینداری  
وغیرہ سی صد یکروپیہ

*Specification on the reverse.*

Pergunnahs 22, Nizamabad,  
Kowreea Tilhenee, Gopalpore,  
Suggree, Mahomedabad, Goh-  
na, Ghosee, Chukeysur, Nu-  
thoopoor, Cheriakote, Keriat  
Mittoo, Belhabans, Deogaon,  
Mownat, Bhunjun, Shadee-  
abad, Behreeabad, Puchotur,  
Seydpoor, Bittree, Zuhoor-  
bab, Bhudaon.

Nankar 1,25,000 Rupees,  
Zemindarry dues per village  
2 Rs., per cent 1 Rs.

31st. If the holder of this Sunnud had been in power when we first acquired the country, it is not improbable that we should have acknowledged him sole proprietor of all this tract of country, and have reduced the real proprietors to the rank of mere tenants.

32nd. From these revolutions the Pergunnah of Mahol was generally exempted. A family of Seyuds obtained possession of it in a Zemindarry grant at a very early period, the tradition of which is now lost. They contrived to locate themselves firmly in the Pergunnah. Branches of them entirely suppressed the Rajpoot communities in many of the villages. The Rajah was dispossessed of the government by the Nuwab of Oude, previous to our acquisition of the country, but he still retains many villages as his private property. Some of these have passed from him, by sale for arrears of revenue, to the hands of the notorious Amil Sheo Lall Dhoobe, and yet in some of these villages the old Rajpoot communities exist, though they have long been broken down, and the members reduced to the rank of mere cultivators on fixed rates. Instances sometimes occur of the strength with which ancient proprietary associations are maintained, even long after all exercise of the rights has ceased. The two contiguous villages of Mohujah and Newadah had long been held by

the Mahol Rajah. Soon after the cession they passed, by public sale, into the hands of Sheo Lall Dhoobe. No proprietary right had ever been claimed by the village communities, and yet in 1834 they fought regarding their common boundary, and lives were lost on both sides.

33rd. The above historical facts have been mentioned merely to illustrate the mode in which the proprietary right was generally exercised, and how this right was transferred, and the present existing diversity of tenure introduced. I suppose the original conquest of the Rajpoots to have been the general foundation of the existing proprietary right in the soil. That right we often still find exercised in its original purity, but in many places no trace of it can be found. A few instances in which the mode of its annihilation, and the rise of a subsequent right is known, may account for these irregularities.

34th. Tuppah Hurbunspoor extends along the south bank of the Touse, opposite to Azimgurh. It was held originally by a tribe of Sukrawar Rajpoots, a remnant of whom still survive in Ooncha-gaon. In order to strengthen their fort, the Rajahs of Azimgurh determined to lay waste a great part of this tract, and encourage the growth of jungle upon it. The Sukrawars were accordingly expelled, and the country depopulated. The soil however is rich, and in time, when the whim of the day had passed away, it was considered desirable to bring this tract again under cultivation. The Sukrawars were, however, then broken and ruined, and in no condition to assert their rights in opposition to the Rajah of the time. In this space, accordingly, to the south of Azimgurh, in its immediate vicinity, we find all sorts of tenures existing. The village of Siddharec was given to Baboo Baz Bahadoor, a member of the family, and added to his Talookah. He located cultivators upon it, and it is now his absolute property. A portion of land, formerly called Sarungdurpoor, was given to Ikram Khan, who brought it into cultivation, and there located a body of Puleear Rajpoots from Sumaidah, in Tuppah Behrozpoor, Pergunnah Mahomedabad, and called the place Ikrampoor. He passed away, and the resident Rajpoots became recognized as the proprietors. Thus too Jaffurpoor is formed out of the land of the old villages of Pooranahpoor, Bullaisur, and Golwarah. Baboo Jaffur Khan brought the land into cultivation, and located some Dhoonwar Rajpoots, who afterwards, on the extinction of his family, became the proprietors. Another tract of this waste land was assigned to some Bunecahs, who brought it into cultivation, built a large village, and have left traces of their industry and wealth in numerous topes, and some artificial bunds for irrigation. This village was called Bodhaitah. In the days of the Chukladars it was plundered.

ed, and the inhabitants massacred ; since which time it has remained without one inhabitant (Be-chiragh). In default of other claimants, the Canoongoe of the Pergunnah engaged for it, and now holds it in proprietary right as his Zemindarry. A Bunniah in Azimgurh, who claims his descent from the old proprietors, attempted to establish his right in the Special Commission Court, but failed. Ask any intelligent resident in the neighbourhood, who is the rightful Zemindar?—he will answer, the Bunniah. Question him more strictly, and he will admit the prior right of the Sukrawar Rajpoots. Tradition reaches no higher.

35th. Achar, and its dependant villages in Pergunnah Mhownat Bhunjun, was held by a tribe of Kaut Rajpoots. The Dhoonwars of the neighbouring estate of Khabseh were the more powerful: they attacked, and massacred most of them. The little mud Ghurree is still shown where the last who held their ground were put to death. This took place only a few years before the cession. Some of the family fled into the neighbouring district of Ghazeepore, then in our possession, and have in vain since attempted to recover their rights.

36th. A family of Chundel Rajpoots emigrated from the Juanpore district and settled in Pergunnah Nuthoopore, where they acquired much land about the place where the Durgah of Kullooah Bund has since flourished. A chur was subsequently thrown up between the Kuttooby Talow and the river Goggra. Of this chur the Chundels took possession. Their prosperity kept pace with the increase of the chur, and the Chundels of Doobarree are now one of the most flourishing clans. Their Talookah till lately was included in Pergunnah Secunderpore ; it has now been annexed to Nuthoopore.

37th. In many cases the origin of the present Zemindarry right has been the rent-free grant of waste land to the ancestors of the present proprietors, such grant having been made by the actual sovereign, the Emperor of Delhi, or his local representative. The grantee brought the land into cultivation, and as the former proprietors had passed away, on resumption of the grant by some succeeding ruler, was acknowledged as proprietor. Some terms of this sort are said to have had their origin in grants by the Sherki sovereigns of Juanpore.

38th. The appropriation of waste lands was sometimes, however, founded on mere acts of usurpation by powerful individuals or communities, or has grown up by sufferance. Thus the powerful Pulwars of Kowreeah have encroached on the neighbouring forest land in Pergunnah Nizamabad. Their occupation of Kadarampoor is a case in point. The rise of some Aheer communities appears to illustrate the latter mode of appropriation noted above. These people

were familiar with the forest, fixed their residence on some favorable spot, and began to cultivate ; and when a settlement came to be made, appeared to be the most convenient persons to admit to engagements for the land. Thus the villages of Tumbolee in Tuppah Phurchuk Havelee, Pergunnahs Nizamabad and Muhason, in Tuppah Chitpore, Pergunnah Mahomedabad, are held by Aheers.

- 39th. These instances serve to show in what way the original proprietary right, resting on conquest, may have often terminated, and been replaced by another right founded on grant of the ruling power, actual usurpation, or voluntary act, sanctioned by sufferance. It is immaterial now to discuss the validity or the legality of the circumstances, which originally created the right previous to our rule ; it was asserted and maintained whenever there was strength enough to support its assertion. Since our rule commenced, it has been recognized, legalized, and consolidated. When no other private rights are prejudiced by the recognition, its admission must be beneficial.

40th. Under the circumstances stated above, the proof of the proprietary right is of very different degrees and nature.

41st. It is of course strongest where the village communities have flourished for centuries, and where they have been powerful enough to hold together, and to keep out intruders. In other cases, where the origin of the right is not so clear, we find it settled on the prescription of many years, and capable of immediate adoption. Generally in the formation of a settlement, possession is the point regarded, and if this be for only a few years, it is still sufficient to give a title, till a better be shown ; it being always borne in mind, that possession is only good as far as it goes, and that a Talookdar who has been recorded by us as Zemindar, may still have below him bodies of people, exercising all proprietary rights, and entitled to the recognition and confirmation of all those rights. In the settlement however of Towfeer Mouzahs, and of resumed Maaffees, the greatest difficulty often occurs. Here the proprietary right has been long in abeyance. All around a proprietary right is exercised, and has been so for ages, so that there is every reason to believe it has existed on the spot in question, but it has been in abeyance once, and perhaps disputed for so many years as to be difficult of determination. If wells have been dug, or trees planted, or bunds erected on the spot, these are always appealed to as proofs of old proprietary right. The enjoyment of the fruit of the trees, or of the fish of the ponds, or of any other of the spontaneous products of the soil, are adduced as proofs of possession of that right. It is a common and convenient practice to refer to the Canoongoe's records, though these are of doubtful authority. Under present rules the case

is referred to a jury, but even they are often perplexed, and I have known cases where contending parties have agreed to leave the determination of the point to lot.

42nd. In rent-free lands some neighbouring Zemindar has generally acquired some recognition of his proprietary right from the Maafeedar, either by direct money payment, or by an allowance of land called *dobiswee* (i. e. equal to two biswas in the beegah, or ten per cent. of the whole area) free from the payment of rent, or by cultivating a large portion of the land on favorable terms. Generally too the Zemindar appropriates to himself the *sayer*, or spontaneous productions of the land, but all these of course often depend on the relative strength of the Maafeedar and of the claimant of the Zemindarry.

43rd. In the large *co-parcenery* villages, intricate questions sometimes are raised by the claimants of shares, and it becomes difficult to decide whether a man is a sharer or not. A member of a village community often falls into distress, either because his share is really inadequate to his support, or because he has become impoverished by his own fault, or by misfortune. Under these circumstances he may make over his share to a *co-parcener*, or let it lie waste. In either case he may leave the village, or continue to reside in it. If he continue to reside in the village, he may still have his share of the *sayer*, though he have no cultivation. If a partition of waste land attached to a village takes place, he immediately asserts his claim, and if the settling officer were to take the determination on himself, he would find the task no easy one.

44th. I have thus endeavored to show the probable origin of private proprietary right in the land, and of the forms under which it is found to be at present exercised. I will proceed next to classify these forms, and to point out the principal features which characterize them.

45th. The proprietary right in the land may rest either in a single individual, or in a community of people. This community may divide amongst themselves the profits of the estate either according to their ancestral shares, or according to some arbitrary rule, having reference to the quantity of land which each member cultivates. Of the two latter tenures the former has been sometimes styled the *Zemindarry*, the latter the *Putteedaree*, or *Bhyachara*. None of these terms have local application.\* The term *Zemindar* is generally applied in the district to any one having a proprietary right in the land, whilst *Putteedar* is restricted to those members of the village community who are not under engagements directly with the Government. The term *Bhyachara* is not known.

46th. We will proceed to consider separately the three classes of tenures mentioned above. First, those where the proprietary right rests in a single individual.

47th. All these are evidently liable to partition under the existing laws, in the course of the succeeding generations. The vesting of the entire right in an individual is rather incidental than natural to the tenure, and yet deserves special notice, because it is generally created in a way that brings with it special rights and relations. The sole proprietors of villages are mostly those who have purchased them at public sale for arrears of revenue, or under decrees of Court, or by private contract.

48th. Purchasers by public auction, on account of arrears of rent, must be held to have become possessed of all of what is commonly termed the Zemindarry right. From the cultivated land they may collect the established and fair rates: of the uncultivated land they have the entire disposal. The *Sayer*, including the *Phulkur*, the *Bunhur*, the *Julhur*, and whatever Zemindarry cesses are levied in the village, of right belong to them, as does also the whole of the timber; which is not the personal property of the resident who planted it, or his heir. With the former non-proprietary cultivators the relations of the purchaser are well defined. He steps into the place of the former proprietors, and is entitled to collect whatever they used to collect before. From the old proprietors he is entitled to demand for their Seer the average rate paid in the village, or its neighbourhood, for similar land, by similar classes of cultivators, though this may be some times difficult to determine immediately.

49th. An individual may have become possessed of a village under sale in satisfaction of decrees of Court, and this is more frequently the case than might be expected, even when the former proprietors were numerous. A wealthy and intriguing old man who once gets a footing in a village will soon contrive to turn the interests of all the others to sale, and by purchasing them, to make himself the sole proprietor. The right thus acquired is evidently more absolute than where it rests on sale for arrears of revenue, though the latter gives the better title. The latter absolutely transfers only the Zemindarry right, guaranteed by the State against all other claimants; the former gives the whole of the rights and interests of the persons whose estates were sold, but liable to challenge by any other claimants. In the latter case, the old proprietors retain their rights as cultivators; in the former, they lose them, and sink to the ranks of mere tenants at will.

50th. Purchases under special contract are of course ruled by the terms of the contract; but here, as well as in the case of sales under



decrees of Court, our mistaken practice has introduced much confusion. It became customary to consider the recorded Malgoozar the absolute proprietor of the whole share, for which he paid the revenue; and hence the sale of his rights and interests was held to be a conveyance of the whole share; a transfer of the names was made in the Collector's books, or, in technical terms, *Kharij Dakhil* was taken out, and it became no easy matter to determine what really was transferred. No doubt recorded Malgoozars have often taken advantage of this misapprehension of their rights seriously to injure their co-parceners and enrich themselves at their expense, but great injustice has also been caused the other way. A *Putee* has raised money on mortgage, or stood security in the name of its recorded Malgoozar, and received all the benefit accruing from either transaction; and afterwards, when the terms of the contract have come to be enforced against them, have endeavored to throw the whole weight on the Sudder Malgoozar alone. The Government has frequently been thus a loser by accepting a Sudder Malgoozar as security in the full amount of his recorded liability. Cases of this sort must of course be decided each on their separate merits. I would only mention one rule, which I have found arbitrators adopt. Co-parceners living together, and holding their property jointly and undividedly, are held to be bound by the act of their recorded managers. The presumption in such cases is strongly in favor of common agreement to the act, and they must be very strong and peculiar circumstances which could establish a right of exemption from all the liabilities implied in the deed.

51st. Talookahs are not always held by an individual, but they frequently are held either by one person or by a few living together, all exercising their rights <sup>and</sup>. Any collection of villages held together, either by one person <sup>or</sup> many, is in the common usage of the district called a Talookah. We <sup>do not</sup> employ it here in the more restricted sense in which it is <sup>used</sup> received in the Western Provinces, as meaning a collection of <sup>several</sup> villages, each having a separate community of its own, which by <sup>the</sup> act of the ruling power had been assigned to an individual, with <sup>power</sup> to collect the revenue from them, and pay over a certain <sup>portion</sup> of it to the Government.

52nd. Of such Talookahs there are not many in Azimgurh, nor are the few that exist of any great size. Talookah Baz Bahadoor perhaps is the only one which deserves very particular notice. Baboo Baz Bahadoor was a junior member of the family of Gantum Rajahs of Azimgurh, already mentioned. He obtained from the Rajah of the time several villages. Some of them were waste, and he brought them into cultivation; some of the village communities were weak, and

either he hoped to crush them, or they anticipated advantages from being placed under his care. He thus acquired about 20 or 30 villages in different Pergunnahs, and by superior address managed to keep some hold of them till we acquired the country. Our first act was of course to call him Zemindar, and constitute him absolute proprietor of the whole. He himself however was not in a condition to avail himself altogether of the favorable opportunity. He fell into pecuniary difficulties—was obliged for sometime to make over his estates in mortgage to a banker, and at the last settlement was unable to enter into engagements himself, and saw many of his villages transferred in farm to the members of the village community. Now in some of these villages the Talookdar was the only claimant of the proprietary right. The lands had been waste, and he had brought them into cultivation at his own cost, and here his recognition as Zemindar was proper. Where, however, the village communities had retained their rights, these were confirmed to them with reservation of a Talookdaree right. Some cases were found in which the Talookdar had never exercised any right whatever over the village, nor derived any profit or emolument from it for many years, although he had all the time been nominal and recorded Zemindar. These were severed from the Talookah and settled with the proprietors.

53rd. If the proprietary right rests in many members of a village community, they may divide the profits according to their ancestral shares, or according to some arbitrary rule regulated by the quantity of land in the cultivation of each proprietor, or, in other words, his Seer land.

54th. When the profits are divided amongst the several co-parceners according to their ancestral shares, they may, or they may not, be cultivators of the land, i. e. the holders of Seer. The simplest form which the case can assume, is when they all live together as a joint undivided family, one person managing the estate for the rest, or appointing a common manager, and dividing the profits at the close of the year. Sometimes they divide the estate, their responsibility continuing joint—sometimes the cultivators only are divided by the Putwaree, each collecting from those assigned to him; and this assignment may take place annually, or when once made may continue in force till a re-partition is demanded. There are instances where each person collects from each cultivator the portion of the rent which is his share, but this is very uncommon.

55th. When the proprietors cultivate themselves, the case is rather more involved. If the Seer of each parcener bears the same proportion to the total quantity of Seer land, that his share does to the

whole, the Seer may be thrown out of account and the collections from the Assamees divided amongst them, according to their shares. This however is seldom the case. It is more usual to levy a rate on the Seer land, either the same that it would bear if cultivated by Assamees, or some other fixed and arbitrary rate, generally a low and favorable one. The village accounts being thus made up, the profits are divided according to the shares. In this case, if the rate levied on the Seer land is the same as on the Assamees land each parcener can take up as much land as he likes as his Seer, otherwise there are constant bickerings on the subject, for of course the increase of Seer cultivation diminishes the rent roll.

56th. When however the proprietors live separate, but divide the profits amongst them, it is by far the most common to divide the estate, and each person to manage his own share as he likes. In course of time, however, inequalities arise either in the quality of the land in one share by superior management, or by the gradual encroachments of one share on the common waste land. This gives rise to violent disputes—some claiming re-partition, others resisting it. These disputes are commonly called in the district, "*kum a beshee*," i. e. where the contending parties affirm that the shares are less or more one than another. The man who thinks he has less than his right, claims to pay not according to his ancestral share, but according to his possession. This is not admitted by the other, and default ensues. Estates have thus been often brought to the hammer, at the time when sales by auction were the favourite means of realizing the public demand. Now they constantly lead to attachment of the estate. The only effectual method of terminating such disputes is by re-partition of the whole, presuming, of course, that participation according to ancestral share be an admitted feature of the tenure. Clause 2, Section XII, Regulation VII, 1822, evidently contemplates cases of this sort, and confers the necessary power on the settling officers. Disputes of this nature are most common in the Pergunnahs of Kowreeah, Gopalpoor, and Atrowleeah Tilhence, and they also occur in Deogaon.

57th. But where the proprietary right rests in a community, the profits of the estate are often enjoyed not according to the ancestral shares, but according to some arbitrary apportionment on the Seer land of each proprietor. This apportionment of profit shows itself in the form of a reduced rate of assessment on the Seer land. In such cases the Government revenue is said to be paid or made up by a *back*, on the Seer. These tenures of course suppose that each proprietor is himself a cultivator, though it may so happen, and sometimes

does, that the proprietor is not a cultivator, but has acquired the share by purchase, public or private, from a cultivating proprietor. Where the profits of the estate are divided according to ancestral shares, the Seer of a Zemindar is that which he has under his own cultivation, i. e. which he has cultivated at his own cost, and by his own capital. In tenures however of the kind which we are now considering, the word Seer acquires as it were an artificial meaning. It is that portion of the land in the possession of a sharer on which he pays the *bachk*, and which when compared with the total amount of Seer in the village, represents his interest in the estate. It depends upon the custom of the estate whether this be all or any part in his actual cultivation, or whether he have any other cultivation in the village than this. Instances are not very common where the sharer cultivates no part of his Seer, and they generally arise, as above stated, out of forced, or voluntary transfers from cultivating proprietors. It is common however for the proprietor to under-let a part of his Seer, obtaining from the tenant the full Ryottee rates, and paying himself only according to the *bachk*. Instances are not common where the proprietors cultivate more than their Seer. One singular case deserves special notice. In Mowzah Oomahpoor, Pergunnah Mhownat Bhunjun, thirty-six beegahs were set apart in the village, and each sharer's right was determined by the portion of this thirty-six beegahs which he cultivated. It was his Seer, but besides this he might cultivate as much more of the village as he liked at the common Ryottee rates, and so all the sharers did to a considerable extent. Other instances probably might be found where sharers cultivated the land of other sharers, or the common lands of the villages, at the usual Ryottee rates, but they do not come permanently into notice.

58th. It is evident that the Seer land may in such case bear any proportion to the Ryottee. It may be very small, and the great bulk of the estate may be cultivated by persons claiming no proprietary rights in the estate, or it may absorb the whole of the estate, which in that case is parcelled out amongst the several co-parceners as their Seer. The latter is commonly the case in the old Rajpoot communities, which have been strong enough to resist all the changes which violence or fraud so often effect. In Tuppahs Chowree and Koobah, in Pergunnah Deogaon, and in a great part of Pergunnah Belhabans this prevails. The members of the Rajpoot communities are very numerous and strong. They will not admit that there are any cultivators but themselves, and record the land as their Seer, each man paying a proportionate share of the Jumma according to the *bachk*. There is strong reason to believe that this is by no means so generally the

case as they aver. They have no idea that an arrangement of this sort enables them more effectually to conceal the real resources of the village, and would be more effective in resisting the inroads or power of an auction purchaser, if any one were to attempt to take their estate at a sale for arrears of revenue. It is certain that many under-let their Seer, and do not cultivate at their own risk. All aver that they give portions of their Seer in payment of service to their ploughmen, herdsmen, and other agricultural labourers. The Putwaree however does not enter these appropriations of the Seer in his accounts: their all appears as Seer, his papers merely showing the extent of each man's Seer, and the portion assessed on him for payment of the Jumma and village expenses. An exception to this may perhaps be said to exist in what are called in Deogaon, Muzhooree Ryots; but these are only persons to whom the village community have made over shares which have lapsed, or are in abeyance from any cause, so that the land may not be waste and leave a heavier burden on the rest of the village. Where the whole of the land is Seer, in these cases the custom which regulates the payments is called *bhaiunsee*, in other places it is called *beegah dam*; in both, the practice is the same. The payments of the early *kists* are made according to a low established rate on the Seer land, and towards the close of the year the whole community assemble to audit the accounts. The village expenses are added to the Government Jumma, and from the total is deducted the payment of the Ryots, if there are any. The remainder is distributed according to the *bach*, upon the owners of the Seer land.

59th. This audit of accounts (or *boojharui*, as it is called) is a most important process to the whole of the community. The right of admission to the audit is the criterion of proprietary right. It may so happen that a proprietor has lost his Seer, either from poverty or its accidental appropriation or destruction. Still he has a voice in the audit, and can claim a scrutiny of the Putwaree's papers. It may so happen that the force or fraud of a part of the community or of an individual in it, has for a course of years kept some of the community from the audit. Such exclusion is fatal to the possession of the party. He is considered as dispossessed.

60th. In a community it must always happen that there are some members of superior intelligence or wealth who obtain a preponderance in the brotherhood. Where so much respect is attached to hereditary right, this influence often descends from father to son, although the descendant may not be distinguished by personal worth. The engagements with Government run in the names of these indivi-

duals, who are commonly styled *Lumberdars* (i. e. bearing the number in the Government Registers). These persons in many parts of the country arrogated to themselves the whole of the proprietary right, and imposing upon the ignorance of the European officers of the Government, succeeded in obtaining recognition of themselves as the owners or Zemindars of the estate, instead of mere managers on the part of the whole community. This however was less the case in Azimgurh than in the other neighbouring districts, especially in the province of Benares. The hereditary right of the managers had not become established, and it had been usual on re-settlement of the estate to alter the name of the manager, and sometimes to increase the number of managers. In the present settlement the question has been set at rest by the filing of an agreement entered into by the whole of the village community, declaring the office to be elective, not hereditary, and the incumbent to be liable to be ousted by the voices of the majority of the *Puttee* or *Thoke* he might represent, on proved mis-management.

61st. Still under any circumstances the audit of the accounts is the fertile source of discord in the community. The village expenses are primarily authorized by the *Lumberdars*, or managers, and as they frequently include fees or bribes to public officers, or other items utterly unsusceptible of proof, are regarded with a very jealous eye by those of the community who are not managers. The power which the Putwaree possesses of fomenting these discords is great, and frequently used in the most injurious manner. It remains to be proved by the result, how far the avowedly elective nature of the office will be now effectual to stifle these dissensions.

62nd. Although, however, the profits of the estate may be divided according to the Seer cultivation of the proprietors, it does not follow that the ancestral sharers are always lost sight of. Sometimes they are, and in such cases the only record of right consists in the Seer, which regulates not only the direct profits arising from cultivation, but also the Sayer, and other proprietary dues. Of this the best instances are Kotelah and Sirsal, and some other villages held by Mahomedan communities in Tuppah Phurchuk Havelee, in Pergunnah Nizamabad. The origin of these communities seems to be totally lost, probably they were originally Hindoo communities, and the genealogy was lost in the confusion which occurred when the Mahomedan faith was adopted.

63rd. In other class of casts the ancestral shares are known and recorded, but profits are still enjoyed according to the Seer. This no doubt has often resulted from over-assessment. When the demand

of the Government is excessive, the proprietors are compelled to throw their profits as cultivators into the common fund, and of course those who do not cultivate could not share the profits, whilst amongst the cultivators the profits would be made to correspond with the cultivation. Accordingly we find that since the cession, and especially lately, when the cultivated area, and consequent assets of the village, have increased without a correspondent increase of demand, many changes have taken place, and villages which formerly paid *Beegah dam* (i. e. by a rate on the Seer,) now pay *Khoo taitee* (i. e. according to ancestral shares.)

64th. In the large Rajpoot communities where the whole of the lands are Seer, though the ancestral rights are well known, yet the custom of paying according to the Seer prevails from another cause, viz. from the constant transfer of land or of shares (generally by mortgage, but sometimes by sale) which takes place amongst the several proprietors. The natural multiplication of some branches of the family of course reduces their shares to so small a fraction that some are obliged to seek other modes of subsistence, and leave their shares in the hands of the wealthier members of the family. In other cases, want or temporary distress induces the mortgage of part of the share. The mortgage generally conveys the land with its portion of the revenue. Instances where the land is mortgaged free of revenue are rare, and the periods of such mortgages are short, nor are they often made, except to regular money dealers, the security of course being bad, as it is liable to be endangered by default of the mortgager. Wherever transfers of this sort are paid amongst the members of the brotherhood, the effect is to lodge large portions of the village in the hands of the wealthier proprietors; and as the mortgages are often not reduced for a long series of years, or perhaps not at all, and are at length lost sight of, the ancestral shares cease to regulate the profits of the proprietors.

65th. I would here remark a curious distinction in these mortgages, which will often be found to afford the clue to disputes amongst the proprietors. Mortgages are either of specific fields, or of shares; the former are called *Khet khut*, the latter *Khoont khut*. A man in distress will mortgage away all his fields one after the other, and at last he makes over his share also; but this transfer, perhaps, carries no land with it. *Khet khut* does not impair the proprietary right of the mortgager, nor does it create any such right in the mortgagee; but the execution of *Khoont khut* at once terminates the connection of the mortgager with the village, and substitutes the mortgagee in his place. The *Khoont khut* probably conveys only a nominal right,

or at least only a right to some small item of Sayer, still it is given with great reluctance, and only under the sternest necessity, and on account of the higher value attached to the privileges it represents, may command a considerable sum.

66th. A similar distinction often exists in titles acquired otherwise than by mortgage. In the village of Burragoon, in Tuppah Chitpoor, Pergunnah Mahomedabad, there were two Puttees in one half of the villages, and only one in the other half. The owners of the latter found themselves numerically the weaker, and fearing that they might be overborne by the two Puttees, summoned a distant member of the family from a neighbouring village, gave him an interest in their half, and had his name inserted in the engagements with Government, together with the representative of their Puttee. There was much waste land in the village, and it was agreed that in each half the waste land was to be apportioned on the Seer of the proprietors. The stranger claimed his share, the owners of the one Puttee resisted it. On further inquiry it was discovered that the stranger had acquired a right to certain fields only, not to a share, he was an owner of *khet* not of *khoont*, and his claim of course fell to the ground. This is an instance of one of the modes, in which the practical bearing of the distinction develops itself.

67th. The mortgage bonds of this sort are frequently worded so as to be deeds of sale, and yet by common custom redemption is allowed. It is astonishing what good faith is generally observed among the members of the large Rajpoot communities regarding these mortgages. A member may have been absent for years, but when he returns to his village in circumstances admitting of the redemption of his share, a meeting of the community is held, his share is determined and given up to him, or the mortgaged fields traced out and restored. An attempt to resist any claim of this sort is highly reprobated amongst the Rajpoots, and indelibly fixes a stain upon the person who resists. Unfortunately the artificial system which is springing up under the influence of our Courts weakens and undermines this generous conduct. Supported by the strong arm of our civil power, a man will now venture to brave the hostility of a community, which in another state of Society, would summarily have enforced its own award.

68th. The man in possession is now supported by the Government till he is ejected by the decree of a Civil Court. The usual way of resisting claims of redemption is either by pleading actual sale, instead of mortgage, and taking shelter under the rule of limitation, which bars the admission of a claim after a certain period, or admit-



ting the mortgage, by bringing forward a long counter-statement of expenses incurred in maintaining possession of the mortgaged lands, or in cultivating them. This account may be swelled to a length far exceeding the value of the land, or the means of the mortgager, and he is at the same time tempted to bring forward a counter-claim for the refund of mesne profits. A case of this sort can only be settled by arbitration. In some parts of the district, as in Tuppahs Chowree and Koobah, Pergunnah Deogaon, the admitted custom is, that redemption takes place on payment of double the mortgage money, and here disputes of this sort are less liable to cause litigation. The village of Ailwul, held by a body of Bissen Rajpoots, which includes a part of the town of Azimgurh itself, is an instance of the ruin which disputes of this sort occasion. Two of the Puttees deserted the village during the oppressions of the period prior to the cession. After that they returned and reclaimed their shares. This was resisted by the remaining proprietor, who had borne all the difficulties which had led to the expulsion of his weaker brothers. The arbitrators absolutely, and free of expense, restored their shares to the claimants. A bloody affray ensued, and the subsequent bitter animosity between the parties compels the constant interference of a Suzawul on the part of the Government to collect the Jumma for the several individuals separately.

60th. The system of *Beegah-dam*, however, very frequently prevails in villages where the shares are the subject of dispute, and here the greatest animosity prevails. The lapse of a share by failure of issue, the conflicting claims of children by different mothers, and the irregular transfer by widows, who may retain the management of their husband's land, are amongst the fruitful sources of these dissensions. Here the contending parties dispute to the utmost the point of inherent right, and when driven from that, the predominant party fall back on the question of village custom; and dropping all mention of the manner in which they originally acquired their large portion of Seer, claim the maintenance of the custom which makes it the criterion of their interest in the village.

70th. The circumstances of Tolookah Sithwul, Tuppah Phurchuk Havelee, Pergunnah Nizamabad, so clearly illustrate many of the curious and difficult questions attending cases of this sort, that I cannot refrain from mentioning it somewhat in detail.

71st. This Telookah originally belonged to a family of Rajpoots, who are now represented by four branches. Between the years 1085 A. F. and 1130 A. F. (A. D. 1677-1722) they sold the estate to a Raneer of the reigning family at Azimgurh, who founded on it a Bazar, now called Raneer-ka-Serai. It was subsequently re-purchased

for 875 rupees by Tannee Rai, a distant relative of the proprietors, and a resident on the estate, but not himself an owner before that time. From the period of the purchase to the present day the descendants of Tannee Rai held with the heirs of the original proprietors, and all paid *Beegah-dam*, but till sometime after the cession, the family of Tannee Rai remained superior. About the year 1820, the descendants of one of the old branches sued for a quarter share of the estate, and on inspection of the genealogical tree,\* and a reference to the law officers of the Court, obtained a decree in their favor. In this suit the real question was never brought forward, nor the circumstances explained, under which the Tannee Rai branch was introduced. This decree was never executed, but at the time of settlement, the holders of the decree claimed execution of it from the officer who was conducting the proceedings. They were of course referred back to the Civil Court for an order on the Collector to give possession under the decree, and at the same time a proceeding was held, setting forth all the peculiar features of the case for the consideration of the Court. Now we are able to perceive in this particular case the origin of the tenure, and the means whereby a new branch was introduced amongst the community of proprietors, alien to the original stock, but still possessed of rights in reality far stronger than any of the others. The principle of the Civil Court's decision went to the exclusion of these, in fact, the rightful owners, and whose proprietary tenure had been sanctioned by the uninterrupted possession of upwards of 100 years. Similarly good reasons, no doubt, often exist, though the trace of them has been lost, for the numerous apparent anomalies, which exist in tenures of this description. The memory of the transaction had been maintained by its comparatively recent date, the high station of some of the parties concerned, and the existence of the Bazar, which was named in commemoration of it. Similar transactions which were not rendered equally illustrious, were doubtless often forgotten in the convulsions and revolutions of former times.

72nd. It is well to remark some of the incidents of this tenure, and the points wherein they vary from each other.

73rd. Sometimes the Sayer are divided according to hereditary shares, sometimes according to the Seer; the latter prevailing where the shares are acknowledged, the former where they are unknown.

74th. The sharers may themselves cultivate, or they may have the option of under-letting their Seer. This depends more than any thing else on the circumstances in life of the sharers. If they are respectable men, who do not cultivate themselves, or have other means of liveli-

hood, they are accustomed to under-let their Seer ; but not if they are themselves of the class of cultivators, and have no other means of occupation. In some instances each person pays the *bach*, upon his Seer, whether it be cultivated or not ; but in general he only pays upon what has been actually cultivated. The former custom is usual when the proprietor is at liberty to under-let his Seer.

75th. The managing proprietor, or Lumberdar of each Puttee, sometimes receives a fixed sum, or pecuniary allowance. This is the case in Sithwul, which has just been mentioned. Each manager there gets 25 Rupees, which is charged to the village expenses. Instances of this are at present rare, because the other unauthorized advantages possessed by the proprietor have generally caused the office to be much an object of desire ; now that the situation has become elective, and held only at the pleasure of the community, it is probable that it will more frequently be remunerated by money payments.

76th. Generally the Zemindars are not allowed to extend their Seer without the consent of the community, but where there is much culturable waste land attached to the village, or cultivators are scarce, the rules on this head are little attended to.

77th. In all villages or estates held by communities, exertions have been made in the present settlement to specify and place on record the several peculiarities and incidents of the tenure, which have been referred to above. The members of the community have been called upon voluntarily to define these in a joint deed, executed by as many members of the body as could conveniently be brought together. The points alluded to in these deeds, are the mode in which the profits of the estate are to be divided, and the rules regarding the enjoyment of the Sayer, the cultivation of waste land, the management of Seer land, the rights, privileges, power and tenure of Lumberdars, or managing proprietors. As far as practicable, whenever a desire to that effect has been expressed, the non-proprietary cultivators and the waste land have been divided amongst the several sharers or families of sharers, so that whilst the joint responsibility is maintained, there still exists the greatest encouragement for the improvement of each several share.

78th. I have thus attempted to describe the principal sort of proprietary tenures ; but before proceeding to any other branch of the subject, would briefly notice the topographical distribution of property which prevails in different parts of this district, and mention the mode in which the settlement proceedings bear in this respect on the state of property.

79th. The simplest form of an estate is, where an individual,

or community of individuals own the whole of a plat of ground lying within certain limits, and bearing a fixed name, as a Mouzah. This may from time immemorial have borne a single name, and be generally recognized as such, or it may contain within its area two or more Mouzahs, Uslee or Dakhulee, or both, whose separate boundaries have long been lost sight of, and which have become intermingled so as to form one village, probably bearing the double name.

80th. The estate however may comprise two or more such Mouzahs, and these may be situated together or at a distance from each other.

81st. The ancestors of many of the Rajpoot communities were possessed of large tracts of land containing many villages. As their descendants multiplied, this tract of land was subdivided, and formed into separate Mehals. This subdivision sometimes was effected so as to assign whole Mouzahs to different branches of the family. It was seldom, however, especially when the subdivision was amongst many sharers, that the property could be so divided. In this case, perhaps, some entire Mouzahs were given to each branch of the family, and the inequalities thence arising were made good in the division of some Mouzahs held jointly by all, or else each Mouzah was divided so that every branch of the family should have a portion. The whole Mouzahs, or portions of Mouzahs, belonging to each branch, were collected together, and made into one Mehal, or estate. But in the Mouzahs held jointly, the division probably was not in distinct portions, but field by field, or as it is commonly called, *Khet Bhut*. Now these fields sometimes became the subject of sale from one person to another, and the purchaser might call the purchased field by the name of his own Mouzah. It thus happens that many Mouzahs in Tuppah Chowree, Pergunnah Deogaon, contain within them fields known by the name of other Mouzahs, perhaps two or three miles distant, and have attached to them fields in other Mouzahs at an equally great distance. In Tuppah Koobah, Pergunnah Deogaon, the case was still more involved by the circumstance, that sets of fields in several Mouzahs, belonging to different branches of the family, bore distinct names. This distinction existed sometimes in the Government records, and not in common usage, sometimes in both.

82nd. Now in all cases of this sort, the system of survey which has been followed is the most convenient which could have been devised. The professional survey gives the locality of the villages, or of the plots of ground constituting the site and the bulk of the village, whilst the native field maps give the several fields within the circuit of each village. These fields can be distinguished by different colors

according to the different Mehals to which they are attached ; and the fair proportion of Jumma allotted to the Mouzah, may be readily assigned to each field, or knot of fields. The fragments of villages thus assessed may be grouped together in Mehals, so as to suit general convenience, and without any trouble to the revenue officers of the Government, or any risk to the interests of the Government.

83rd. It may be useful to attempt a definition of these two terms, a *Mouzah*, or village, and a *Mehal*, or estate.

84th. A *Mouzah*, or village, is one or more parcels of land called by a certain name, of fixed limits, and known locality, neither of which are liable to change. At the time of settlement, each Mouzah has a name and number assigned to it in the Government lists, and must so remain till the ensuing settlement, or till, for any special reason, it should appear fit, under express orders from the Government, to break up or alter the arrangement of the Mouzahs.

85th. A *Mehal*, or estate, consists of one or more Mouzahs, or a part or parts of one or more Mouzahs, covered by one engagement with the Government, or *Durkhaust*, and belonging to one individual or body of persons, who are jointly responsible for the Jumma assessed upon the whole. These are liable to constant variations, according as transfers of property may take place. An annual adjustment of Mehals at the time of making up the annual *kistbundee* if done with discretion, and under certain precautions, will be found very conducive to the comfort of the people, and the convenience of the Government officer.

86th. I would now proceed to notice the right possessed by non-proprietary cultivators, i. e. cultivators not under engagements with the Government themselves, or through their representative.

V. p. 23, Gov. Genl's minute of Sept. 26, 1833. These may be divided into,

*First*,—Those having an hereditary and transferable right to hold their land at a fixed rate.

*Second*.—Those having a right of occupancy at a fixed rate, either for a certain period or during their own lives, or those of their immediate descendants.

*Thirdly*,—Mere tenants at will.

87th. Under the first term I would include all holders of resumed *Maaffees*, with whom such an arrangement has been expressly concluded by the Collector at the time of settlement, and generally those who by purchase, gift, or special compact, have obtained rights of this nature from the Zemindars, such as Bisweedars, Sunkulypdars, the holders of land at reduced rates, or rent free, as security for loans, the holders of land on special terms in lieu of proprietary claims on the estate. These persons may be, as it happens, themselves cultivators or

may have cultivators under them. At the time of settlement the extent of land held by them, and the conditions of their tenure, have been clearly recorded. The proprietor is of course responsible to the Government for the Jumma fairly assignable to their holding, but he may sue them summarily for the amount, and on failure of payment may oust them or bring their tenures to sale. It may happen, and it frequently does happen, especially in Talookahs, that a whole Mouzah may thus be held as an under tenure by the old proprietors, who are responsible to the Talookdar and not to the Government, and who yet may manage the village concerns according to established custom as a proprietary body. The provisions of Act VIII. of 1835, which authorizes the sale of under tenures of this sort, on failure to pay the amount decreed in a summary suit, afford considerable facilities for the realization of the rents from tenures of this description.

88th. In the second class may be placed the former proprietors of estates sold by auction for arrears of rent, as regarded their Seer land—ousted proprietors, or old claimants of proprietary right, as regards the land they have long had in possession, and generally those who, whether actually resident in the village, or otherwise, may be proved to have long held the same land on the same terms for a course of years. The period which constitutes such prescriptive right has been no where settled. It has been held, that land so possessed since the cession may come within this class. A shorter period however might fairly be assigned, and probably the Civil Courts would recognize the term of twelve years as sufficient to constitute the claim. It is not unfrequently the case that tenures of this sort originate in contracts entered into by the Zemindars themselves, with cultivators whom they may engage to bring waste land into tillage.

89th. Now it is evident that all tenures of this kind are liable to adjustment at the time of settlement. No proprietor is at liberty to fix rates which should hold good beyond the term of his own tenure, or lease, nor would the settling officer be justified in recognizing rates which fall below the average of the Government demand, or the fair proportion of assessment which may be levied from the fields in question. It is sufficient that the fair rate fixed at the time of settlement should be invariable during its duration, and that the extent of land thus held, with the rate and right of permanency, should be clearly defined. Of course if the holders of this land extend their cultivation, and take other fields than those which they are recorded to possess, they do not carry their privileges with them, but must make their own terms with the Zemindars for their new requisitions.

90th. The most perplexing cases of this sort which are likely to

occur, have reference to estates formerly held by large bodies of cultivating proprietors, which are brought to public sale for arrears of Government revenue. In such cases it is only the proprietary right of the defaulters which is extinguished, their rights as cultivators remain intact. They are still entitled to cultivate their Seer land at a fixed rate, but the rate requires to be defined. Before the present settlement there was the greatest difficulty in deciding cases of this sort. The Putwaree's papers, supposing them perfectly genuine, show only the extent of each Zemindar's Seer and the *bach*,<sup>h</sup> he had hitherto paid. But the extent was stated in an arbitrary Beegah, commonly called the Bhaiunsee Beegah, much larger than the ordinary standard Beegah, being used only amongst the brotherhood, where relative and not absolute area was the only requisite. In order then fairly to fix rates for the Seer land, it was requisite that the auction purchaser should first measure the land, and then determine the average rates which were paid by other cultivators for similar land. It was seldom, in former times, that auction purchasers were able to accomplish this. Any attempt to measure the lands of a turbulent village community would have inevitably led to a breach of the peace and bloodshed, and the loss to the proprietor would have been immense. The matter used generally to end in a compromise, which of course was more or less favorable to the purchaser according to the strength or influence of the two parties. The rate once fixed, and in general it was a very low one, the efforts of the old proprietors were always directed to including in their Seer the best, and richest Ryottee land. Hence the rental was soon reduced so low as to yield no profit to the Zemindar, and ultimately, in all probability, the estate was returned on the hands of Government as over-assessed. No other purchaser would of course come forward, a Government Suzawul was helpless, and unless some great exertions were made by the officers of Government, the deterioration of the estate was permanent.

91st. Talookah Oonhaitch, formerly included in Pergunnah Puchotur, Zillah Ghazee poor, illustrates the process. It was permanently settled in 1197 F., but broke down in 1223, and for many years had been held *kham* by Government at a considerable annual loss. It has now been re-settled with the former village communities at the old Jumma, and arrangements made with the proprietors for the repayment of the balances by instalments within twenty years. The Jumma, and the instalments have now been regularly paid two years, without the smallest default. The estate has since been transferred to Azimgurh, and forms part of Tuppah Purduha, Pergunnah Mahomedabad.

92nd. The case under the new settlement will be very different. In all estates held by cultivating bodies of proprietors, the custom of *bach*, only is recorded regarding the Seer. There is no necessity for vexing or alarming the proprietors by fixing Ryottee rates on their Seer. If therefore the estate be brought to sale by public auction, there will not be found any rates fixed on the Seer. But still its extent and locality will be certain, and the rates paid by other cultivators of similar rank in life for similar land will be found recorded. There are generally in Azimgurh two rates of rent for the same land, varying according to the rank in life of the cultivators. The respectable, or *Ushraf*, pay less than the lower classes, or *Urzal*. The Zemindars would of course pay the *Ushraf* rates.

93rd. The cause or origin of this distinction is not very clear, but reasons may be alleged in its justification. The *Ushraf* are generally Brahmins or Rajpoots, who are connected with the Zemindars by ties of religion, family connexion, or friendship, and hence are somewhat favored; besides which their respectability gives better security for payment. On the other hand, the *Urzal*, consist of Bhurs, Chumars, and low caste persons, who are generally located on the estate at some expense of capital, and are liable at any time to be left entirely dependant on the Zemindars, who must either support them during a season of scarcity or see his estate depopulated, and his future sources of profit destroyed.

94th. The third class, or tenants at will, consist mostly of those who are styled *Urzal* in the preceding paragraph. They neither have nor assert in general any rights, other than the will of the Zemindar. They take what land he gives them, and pay the utmost that they can, either in money or in kind. Besides their direct contributions to his rental, they render him many personal services. If Kuhars, they carry his palankeen, merely receiving in return food to support them during the time. Other classes bring him wood, tend his cattle, or perform numerous other similar services for very inadequate remuneration. Under former Governments this power was no doubt recognized, and permitted. They were then predial slaves, who were beaten without mercy for misconduct, and were liable to be pursued, and brought back if they attempted to escape. Their state is now much improved. The power is now conventional. A Chumar can now sue his Zemindar in the Criminal Court for an assault, and if detained against his will, can bring his action for false imprisonment. He can even recover in a Civil Court the wages of labor performed. Nothing vexes or annoys the Zemindars in our whole system, so much as this. It has struck at the root of a power, which has long



been exercised most tyrannically, and yet so strong is the force of habit and custom, that often as the power of the Zemindar is still abused, it is very rarely that they are brought into Court to answer for their misconduct.

95th. The foundation on which the right of the Zemindar now avowedly rests, is that of pecuniary obligation. He expends capital in locating the cultivator in the village, he builds his house, feeds him till the harvest time, supplies him with seed, grain, and implements of husbandry. On all these, an exorbitant interest is charged, and in consideration of the pecuniary obligation thus incurred, the services of the man are exacted. Hence the connexion is rather personal than resulting from the tenure of the land, and various circumstances support this view. In mortgages those rights are seldom, if ever, transferred; in private sales very rarely, unless specified; in public sales by authority for arrears of revenue, never. Hence an auction purchaser never acquires any rights over the tenants at will of a former Zemindar, and thus the Zemindar always struggles to include all such cultivation under the term of his Seer. In the partition of an estate, each Puttee keeps its own Ryots, and sometimes the most violent disputes exist as to the right to certain Ryots.

96th. An instance may go far towards exemplifying these customs. In the partition of a village in Nizamabad, held by Rajpoots a dispute arose regarding the right to an Aheer. Each party claimed the man as his own Assamee, and wished his name to be inserted in the list of his own Puttee. Both claimants, and the man himself came forward. The facts of the case were admitted by all. A's ancestors had first located the man in the village, given him his house, supported him, and for a long time retained his services—such as the first day's ploughing of the season, the first day's use of his bullocks in the Sugar Mill, the usual petty offerings of grain, molasses, &c. To improve his cultivation the man had dug a well, for which purpose he borrowed money from a Mahajun. A, was in reduced circumstances, and could not pay the debt. The creditor pressed for payment, and at last B came forward, paid the debt, and subsequently claimed the services of the man, who now left his former house, and resided in one assigned him by B. The man himself, apparently a respectable and sensible cultivator, never thought of denying the obligations of his situation, but said that on A's inability to support him his services were transferred to B. The matter was referred to several respectable Zemindars, who were present, and they unanimously and at once decided that A's right was indefeasible, except by his own transfer to B, and that the Aheer was consequently still bound to

render as before all the usual service to A, whilst B might claim in liquidation of the new debt, whatever else the Aheer might be able to do. This decision was communicated to the parties; the Aheer was registered as A's Assamee, and all parties went away apparently satisfied that the case had been fully heard.

97th. There are however many varieties of this class. In proportion as they are good cultivators, and raised above the menial castes, they acquire by prescription, rights which at length become valuable. The Keorees are an instance of this. They are by far the best cultivators, and they excel in gardening. A Zemindar is always glad to get some of them located in his village. He treats them liberally, because they improve the ground by constantly manuring it, and pay him high rates, and that punctually. Hence their cultivation is never interfered with. They get as much as they like, and are allowed to keep it as long as they will. The self-interest of the Zemindars would always be sufficient to protect them, except against sallies of passion. Lately however the independance of this class has been established by the rapid spread of Poppy cultivation in the district. The Keorees are the only class of people who will produce Opium. By taking advances from the Opium Department, and putting themselves under the protection of that powerful establishment, they have quite freed themselves from any dependance on the Zemindars. It is needless to say, that nothing is consequently more odious to the opulent and powerful Zemindars than this Department.

98th. It is clear that non-proprietary cultivators of this third class by long prescription would rise to the second class, and acquire the right of holding their land at fixed rates.

99th. The better to define and secure these rights, it has been one great object of the settlement proceedings to form an accurate record of each of these classes, according to their several designations. In the two first classes, the extent of their cultivation and rate of payment has been determined; and in the third, the land actually held, and the rate actually paid recorded; this rental thus formed by the village Putwaree, in the presence of as many members of the community as may be on the spot, has been afterwards advertized for information in the village, and at the place where it was drawn out, a time fixed for hearing objections, and at the close of that time, the question has been finally disposed of. Whenever the prevailing rates may have been reduced below the fair Pergunnah average, from collusion, partiality, by special contract, or other cause, it has been sometimes necessary to re-adjust and fix the rates, which may be hereafter demanded.

100th. The future maintenance of those arrangements must be left to

the Courts of Law, but it is well to see how the present practice of the Courts affects them. Summary suits for rent will be decided according to these rates, unless proof be adduced that they have been set aside by the Dewanny Courts, or altered by voluntary agreement; and such voluntary agreement should never be admitted on the denial of either party, except under the clearest documentary proof, or alteration of the rates previously made by both parties in the register of the village. Any cultivator forcibly dispossessed of the land he holds, according to the register, might sue summarily before the Collector for re-instatement, to whatever class he might belong, and would be re-instated accordingly. A summary process is provided to maintain a cultivator in possession against his Zemindar, but no summary process for ejecting a tenant at will is open to the Zemindar. If any Ryot fails immediately to liquidate a demand for rent, adjudged against him in a summary process by the revenue authorities, he is liable to ejectment, and his land is then made over to the Zemindar. Tenants at will seldom resist the requisitions of those who are really their Zemindars, that is, who claim the supremacy which has been before described; but few would yield up their possession in favor of an auction purchaser. In such cases, then, although the Zemindar possesses legally the right of ousting the tenant at will, he can only legally enforce it through a regular suit. The Courts also can of course always take cognizance of claims to be removed from one class of cultivators to another. It is however very questionable how far they could interfere in altering the rates fixed by the revenue officer, unless on pleas originating subsequently to the settlement. They could at least only take cognizance of the question as between man and man, between the Zemindar and the Ryot, as it might be affected by contracts existing between them. They could not positively alter any rate fixed by the Collector. If the estate were held *kham*, or farmed, or sold by the Government in consequence of default, the settlement rates might be demanded, notwithstanding the decree of the Court. If this were not the case, the rental might be reduced below the Government demand, and the interference of the Civil Courts might be thus exercised in regulating the Jumma, which it is an established principle that they have no power to call in question.

101st. If it were desired to introduce the European system of farming, or, in Indian parlance, to make the whole lands of the village Seer, this could only be effected by purchasing up the rights of the two first classes, and by purchasing out, or ejecting, the last class, probably by long and expensive litigation. The insuperable aversion

which the upper classes (*Ushraf*) have to engage with their own hands in any agricultural operations, would render it very difficult to persuade them to part with their rights.

102nd. It is necessary to allude here to the great number of summary suits regarding the payment of rent, which are instituted in this district. The number is still increasing, and the causes

Number of Suits instituted in the three first quarters of 1823—

1823—371

1833—647

1834—358

1835—675

1836—882

1837—1395

which have produced so much litigation deserve note.

*First*.—The operations of the Special Commission under Regulation I, 1821, and I, 1823, for the reversal of fraudulent sales, and transfers of property; was one of the chief causes. In the

early period of our rule the district suffered exceedingly from the effects of our Code. This was hastily introduced, immediately on the cession, and gave a rich harvest to numerous intriguers, who poured in from the neighbouring districts which had been longer under our rule, and were better accustomed to the tricks and chicanery, which an artificial system of the sort is likely to produce amongst an illiterate people. The choice too of some of the first agents for introducing the new system appears to have been unfortunate. The natural result was, that extensive frauds were perpetrated both in the registration of owners of estates at the time of the first settlement, and subsequently in the transfer of property under forced and collusive sales. To remedy this state of things was highly desirable, and the remedy ought to have been promptly administered immediately the evil was discovered. As it turned out, the attempted remedy was almost worse than the evil.

103rd. In 1829, that is, twenty-six years after the commencement of the evil, the Commission was called into operation in the district. Its conduct was entrusted to Mr. R. M. Bird, the Commissioner of Revenue and Circuit for the division, who was perfectly aware of the necessity, and importance of the measure. The Regulations quoted above confer an immense discretionary power, and admit of great latitude of interpretation. Mr. Bird commenced the work with energy, and began to act on the strong views he justly entertained upon the subject. Had these views been then carried through with promptitude and decision, great good might have resulted. An immense number of suits were immediately instituted, but in the mean time a change had taken place in the views of the superior authorities on the subject of this Commission. Some of the first cases decided by Mr. Bird gave rise to much discussion, and were reversed in appeal. No further decisions were passed, and the time of the

Commissioners was speedily so completely occupied with their other duties, that the investigations lay thus in abeyance for seven years, till in 1835 a separate officer was appointed to close the investigations. When this took place, the views which led to the original enactment, had become completely altered, and all the claims which had been kept alive for seven or eight years, were speedily thrown out. In addition to this, the appellate authority, as well as the primary, had become clogged and overwhelmed, till about the same period a special provision was made for the discharge of its functions. Hence many of the claims which had been allowed by the Special Commissioner in the early part of the period between 1829 and 1836, and the parties put in possession accordingly, were disallowed in appeal at the close of the period, and the decree holders again dispossessed, and made to account for mesne profits.

104th. Amongst a people extremely sensitive regarding their rights in landed property, it may well be conceived what injury resulted from operations such as these. It is unnecessary to notice here the evil effects upon the prosperity and morals of the people. Its effect in all estates which had been purchased at public auction for arrears of public revenue (and very numerous they were) shewed itself in the refusal of the members of the old village communities to pay their rents. Hence the proprietor of such an estate was sometimes compelled to file sixty or seventy suits in a single village or Mohal.

105th. *Secondly*,—By far the larger number of suits were instituted in Pergunnah Nizamabad, and many of these resulted from the fiscal mismanagement of the Pergunnah whilst under settlement, from 1822 to 1834. It was the field where every young and inexperienced officer began to make settlements, or to introduce a new system, and hence was the subject of many crude and rash experiments. Amongst these was the arbitrary fixing of rent rates, from which the Government demand was deducted. In proceedings under Reg. VII, 1822, this was frequently done, and with the most injurious effect. The arbitrary rates could often not be exacted, but they gave the Malgoozar a pretext for demanding them, and consequently involved him in litigation.

106th. *Thirdly*,—The very unsettled state of the landed property was another fruitful source of litigation. Disputes regarding boundaries, and between Putteedars, were constantly thrown into the summary suit file.

107th. *Fourthly*,—But all these causes were ten-fold magnified by the delay which used to occur in the decision of these suits, then falsely called summary. Till the Sudder Board of Revenue took up the subject in 1833 with their wonted energy, suits of this sort used to

remain on the file ten years or more. When the Civil Courts had the charge of the summary file, very few decisions were ever passed, and these few were based on no fixed principles. Contumacious cultivators derided the efforts of the proprietor to compel payment by the institution of summary suits, whilst these were still placed on the file by the disheartened proprietors, lest failure to assert the claim might have compelled reference to a regular suit, which seemed more expensive and still more hopeless of speedy termination.

108th. A recourse to distress and sale of personal property of the tenant was equally fruitless, replevin immediately took place, and further proceeding was stopped till that could be disposed of.

109th. A very different state of things has followed close upon this. Within the last three years summary suits have been decided and enforced, through the agency of the Tuhsildars, with a promptitude never known before. A month or six weeks is the average duration of a suit, and none lie over for more than three months, whilst the Cutcherry of the Tuhsildar is a tribunal at the door of every man. In the mean time, the Special Commission has nearly closed its course, rent rates have been adjusted, and boundary and Putteedar disputes settled. It must also be remembered that the division of property is very minute, the number of subordinate tenures large, and that every effort has been used to induce the Malgoozars to have recourse to summary suits, instead of relying on the irregular and illegal interference which used to be exercised by the Tuhsildars in the adjustment of their Putteedaree disputes, and collection of their rents. When all these things are taken into consideration, it will not perhaps be considered strange that the summary suit file is heavy. It will rather be thought a happy proof of the efficiency of the process, and a sure indication that regularity and legal modes of redress are rapidly taking the place of confusion and misrule.

110th. The state of the rent free lands requires some notice. All the claims to hold land free from the payment of revenue have been investigated and finally disposed of. The quantity resumed and settled is very large. This consisted mostly of unauthorized grants by Amils, or Tuhsildars, or Zemindars, in which the original grantee, however, had generally demised, and the property had devolved upon the heir, contrary even to the terms of the grants. A large portion of the grants had conveyed tracts of waste land which had been brought into cultivation after the commencement of our rule.

111th. An uniform principle regulated the settlement of all these tenures. Possession and the actual state of things was maintained so far as it was unaffected by the assertion of the right of the Govern-

ment to its share of the produce. If any other than the Maafeedar was in possession of the Zemindarry, i. e. the proprietary right, the settlement was made with him. If the Maafeedar had obtained the Zemindarry right by legal transfer or by prescription, the settlement was made with him. If he had not obtained the Zemindarry, but seemed to possess other rights as an under tenant or cultivator, those rights were secured to him on easy terms, and he was protected from any encroachment on the part of the Zemindar, so long as he faithfully performed his part of the contract.

112th. A few tenures were confirmed for life, or in perpetuity. The latter are old religious endowments, which appear to have been held from time immemorial, and to have been respected by all.

113th. The settlement of this province for twenty years has been formed in the seasons 1833-34 to 1856-7, and extends according to the year in which each settlement was formed from A. F. 1241 to 1264. In all, the settlement has been conducted professedly under the system generally designated as that of Regulation ix, 1833. The adjudication and demarcation of village boundaries prior to survey, the measurement both by Ameens and by professional Surveyors, the determination of the Government demand from general considerations of former fiscal history, and comparison with other neighbouring and similar villages, without a minute scrutiny into the assets of each estate, and the subsequent record of proprietary rights and rent rates, are the main features of the system. In particular cases the system may have been a little deviated from, as will hereafter appear, but this arose from peculiar circumstances.

114th. The former assessment was in general light. The country was imperfectly cultivated. There had been no settlement since 1220 F. and subsequent to that period much waste land has been brought into cultivation. There was therefore less caution necessary in fixing the Government demand than where the assessment had formerly been overstrained, and large reductions were called for.

115th. Very few instances of recusance on the part of the Zemindars ever occurred. It is true that the average of the assessment on the cultivated land is not low, but it must be remembered that the land is very valuable, and pays rates generally much higher than elsewhere. Sugar, Indigo, and Opium are the crops which bring the greatest pecuniary return, and it is satisfactory to bear in mind that the rates were assumed about 1833-34, when all these products were in less demand than general. The advances of the Government for Sugar had ceased a little before that period, and materially deranged the market for that article. The failure of the agency houses in Calcutta

had depressed the Indigo market, and the cultivation of Opium even now is less extended than it might be.

116th. The chief labor of the settlement consisted in the difficulty of deciding the numerous boundary disputes, and fixing the relations between the proprietors amongst themselves, or the proprietors on one hand, and the numerous subordinate tenants on the other. The whole area of 2,121 square miles is parcelled out into 5,541 villages, which gives an average of less than 245 acres to each village. When we advert to the former state of this district, and the rapidity with which it has been in our hands, it is not surprising that numerous disputes should exist between the different villages. The adjudication of these had never yet been attempted on any uniform plan, and it was a task of no small difficulty, in many cases, to reconcile or give effect to the different decisions which had been formerly given; voluntary arbitration between the parties was the means generally employed for determining the boundary, but where the parties would not arbitrate of their own accord, persons were appointed by lot, under the established mode, to settle the dispute.

117th. I cannot say that I contemplate with satisfaction the mode in which this duty has been performed. Too much was left to private arbitration, and the awards thus given were too strictly followed. The venality of the arbitrators became at length notorious, and there were some, who were known to have amassed large sums in this method. When the work was nearly completed, all persons were convinced that the preferable method was to refer as little as possible to arbitration, and in the cases which were so decided, to tie down the arbitrators within the narrowest limits, and to insist upon a prompt decision in the immediate presence of the superintending officer. This plan was pursued very successfully after the completion of the unsettled portion of the district, in the permanently settled Pergunnah of Secunderpore.

118th. Whatever may be the defects of these operations, it is however certain that the amount of good has been enormous, and quite throws the other into the shade. Possession has been scrupulously upheld, so that the main injustice which could ever be inflicted was to transfer more or less of the culturable waste between two interjacent villages to one or the other. To this waste it was seldom that any title could be made good. By no other plan than that prescribed by the system of settlement could these have been ever brought to adjudication. They have now been all decided, marked off, and a record of the boundary formed both by native Ameens in a rough manner, and by professional Surveyors, on scientific principles. It is scarcely



possible hereafter to conceive that any doubt should exist as to the decision, and the real position of the boundary. One cannot but regret that the agents employed in these operations should often have been false and corrupt ; but there can be no doubt ; that any attempt now to revise these proceedings, or any failure of decision in supporting the demarcation now made, would be attended with the greatest possible evil, and throw the whole district into confusion.

119th. The only authority competent in any way to alter the decisions already given, is the Civil Court in a regular decision. The Courts will now have each case clearly before them, and every possible light will be thrown on its merits. The sound rule to lay down is, that every decision must be confirmed, unless it can be proved that it was unjust, and the right to another boundary established. If this rule be strictly followed, no evil will result.

120th. One great advantage of the system is, that the district is twice visited by the revenue authorities, once before survey, to settle the boundaries, and again after survey to fix the Government demand. The latter is a valuable opportunity to inquire into any cases of alleged hardship or injustice, which occurred in the former operations. This has been always done. The officer who came on the second occasion to form the settlement, was generally of superior experience to the officers employed on the former occasion, and the opportunity seized to examine the former decisions. I can confidently say that no cases have been left, where the correction of apparent partiality would not have violated some important principle, which could not, according to the spirit of the law, or the dictates of sound policy, be shaken without very injurious results.

121st. The adjustment of the right of co-parceners and of the rates payable to them by non-proprietary cultivators, has also been a work of great labor. It has been much increased by the expression of a general wish on the part of the people, subsequently to the settlement, to have their shares in the estate separated, both in the cultivated and culturable parts. This has been very generally done at their own expense, towards which they readily contributed. In such an event, the village has been remeasured ; the holding of each person distinguished by a peculiar colour ; and new *Khusreh Khuteonee* and *Terij* formed accordingly. Nothing, I believe, has given more satisfaction in the district, or tended more to the security of property, than the way in which this operation has generally been performed.

122nd. The incidental advantages arising out of the present settlement, and the other operations which have been conducted to a close during its progress, may be thus enumerated :—

123rd. The formation of an accurate map of the whole district has enabled the local authorities to fix a regular boundary with the neighbouring districts, and to determine the limits of the several Pergunnahs, Tuhsildaries and Thannah jurisdictions. The greatest possible efficiency has thus been given to the several establishments, and the comfort of the people greatly consulted. The statements inserted after paragraph 5 present a complete view of the organization of the Mofussil establishments of Revenue and Police, which has been thus effected.

124th. The accounts of each village with the Government were adjusted at the time of settlement. Arrangements were made for the liquidation of any outstanding balance of land revenue, or *tuccanee*, or the remission of the demand determined. The items in deposit regarding the village were examined, and either refunded, carried to the account of Government, or otherwise disposed of, as was necessary. The several items standing under the head of law charges, and arising out of previous litigation between the Government officers and the different villages were adjusted. The confusion into which the accounts had fallen, rendered the careful execution of a work like this, at such a period, important in its financial results, and a great accommodation to the people. At the same time it tended to bring more completely before the settlement officers several considerations which were essential to the formation of a right estimate of the capabilities of each village.

125th. The arrangement of villages at the time of settlement, made after the limits of the district and its several subdivisions had been fixed, as shewn in the general statements furnished with the report on each Pergunnah, has also been the basis of a system of registry and record for the whole district. The Pergunnah number attached to each village in the general statement, is the same that is borne by the bundle in the Record Office, which contains all the proceedings that have reference to that village. The lists attached to these bundles are, in fact, registers of all the transactions that have affected each village.

126th. Having thus sketched the general operations pursued in the district, it will be of some practical use to notice the particular degree or method in which they were carried into execution in each Pergunnah. I will endeavour to do this faithfully and impartially, with all the light which subsequent experience has thrown on the earlier operations in the district.

127th. Pergunnah Nizamabad is the largest and most important in the district. It was first selected for settlement soon after the passing of Reg. VII, 1822, and was the field where every young officer

first attempted to make settlements, and obtained his experience. The results, as might be expected, were very incongruous. In 1833-4-5 all these operations were recast on the model adopted on Reg. ix, 1833. The professional survey was conducted by Capt. Simmonds, whilst the field measurement, where it had not been already completed, was conducted by the revenue authorities. One great evil of this was, that the revenue survey, especially on its first commencement in 1833-4, was far from correct. The interior survey, especially, was often considerably in excess of the truth, as is always likely to be the case, when it is not checked by the native field measurements. The culturable land was also given considerably in excess, from an opinion held by the surveyor, that all the land which would produce any thing whatever should be classed under this head.

128th. In estimating the settlement, advertence must always be had to the mode in which the "general statement in acres" was from necessity drawn out, and the averages there exhibited.

129th. The cultivated area was always taken from the measurement on which the settlement was formed. This was frequently many years previous to the professional survey, and exhibited a much smaller cultivated area than was found to exist at the time the settlement was prolonged for the extended period from 1241 to 1262. The prolongation of the settlement was partly thus determined on considerations, which, although they may have influenced the first settlement, were not the foundation of it. The total of the cultivated area there exhibited in the general statement is considerably less than the survey gives, and also below the fact. This of course makes the average rate of assessment higher than it would otherwise have been. The total area was necessarily taken from the survey returns, which were undoubtedly under this head correct.

130th. The diversity of plan and of persons who had conducted the operations in this Pergunnah, produced its natural effect in great inequality of assessment. In the remarks I have made on the errors of inexperienced officers, I by no means except myself from the number. On first joining the district in 1833, with no previous revenue experience, I found the Pergunnah distracted, and almost ruined by the mal-administration of the preceding ten years. Large balances accrued annually, not from over-assessment, but from unadjusted rights and disputed claims. Affrays frequently occurred, from ill-defined boundaries. There were numerous unadjusted claims, and every thing pointed out a state of considerable disorganization. It became an object of great importance to terminate this state of things as soon as possible. At the close of the year the revenue survey commenced, and did

not terminate its operations in the Pergunnah till the end of the next season. It thus happened that this was the first part of the district prepared for settlement, and in addition to the other causes which urged a speedy termination of the settlement, it became necessary at once to enter on the revision and completion of the operations here, or to remain unoccupied. The settlement was completed and reported in the middle of 1835. Two years' experience since then has convinced me that some of the assessments are higher than they ought to have been. Some of the errors were those of my predecessors, which I left uncorrected; some my own, into which I was betrayed either by erroneous surveys, or by the partial assumption and application of averages. I think, however, that these cases are few. During the two years above alluded to, a Jumma of nearly three lacs has been collected, with a real balance of only one or two hundred rupees at the close of the year. Even this has been realized soon after; and in addition, large sums have been collected in each year, the balance of former years. In one instance, a small village was sold for its arrear and fetched a good price, and in another a farming arrangement was made for the share of a defaulter. Both these cases were peculiar, and with exception to them, the whole has been collected by the ordinary methods. Imprisonment of the person, and distress of personal property, have been very rarely resorted to. It is probable that so long as the present high prices of Sugar are maintained, and the demand for Indigo and Opium remain what they are now, little difficulty will be experienced in collecting the revenue during ordinary seasons. Any failure, however, of these sources of profit, or adverse seasons, will probably throw some of the villages, for a time at least, on the hands of Government. It was for some time a question in my own mind, whether I should propose a reduction of the Jumma on a few estates. The remission of 2 or 3,000 rupees on ten or eleven villages would have been all that was required. But after consulting with the most intelligent natives in the district, it seemed best to avoid shaking the confidence of the people in their settlement, or to check the efforts they were rapidly making to improve their estates by extending the cultivation, or increasing the means of irrigation. If the opinion had once prevailed, that default and reluctance to pay might produce a reduction of assessment, these industrious habits would have been checked, and many estates have been injured at a small advantage to a few. The operation too of this principle would have probably been felt in other Pergunnahs where no such inequality existed.

131st. The confusion in this Pergunnah was not confined to the assessment. The demarcation of boundaries was also attended here

with far more difficulty than elsewhere; it had previously been the custom to measure the village before the boundaries were fixed. This pernicious practice had given rise to endless intrigues and chicanery on the part of the native Ameens. The lands of one village had sometimes been measured, or rather the measurement inserted in the papers of another village, and the settlement formed on this measurement. It hence became often necessary before the demarcation of a boundary, to examine many previous proceedings, and refer to voluminous documents. This, and the habit of intrigue and litigation, which it had fostered amongst the people, rendered the work very tedious and difficult. I fear that in some cases knavery and corruption obtained their ends, and I know not how this could have been avoided. But in every case, a clear decision has been given, a good demarcation on the ground has been made, and a record of the boundary has been formed. The value of this can only be known to those who were acquainted with the previous state of things. It has already in many cases of itself altered the face of the country, and saved many persons from ruin.

132nd. The imperfections of the boundary work in some degree affect the value of the survey, at least in the eastern and southern portions of the Pergunnah, which were surveyed in the first season. The professional survey cannot be there taken as an infallible indication of the boundary, but references must also be had to other documents put up with the proceedings in each case. In the western and northern parts, which were surveyed in the second season, there is little or no fear of error.

133rd. The same imperfections which adhered to the other parts of this settlement, exist also in the record of the fractional shares of proprietors, and in the adjustment of the rent rates. In the previous settlements it had been usual to express the hereditary rights of the proprietors in fractions of a rupee, without ascertaining whether their actual interests in the State did, or ought to correspond with them. Arbitrary rates were also frequently fixed, which never could be paid. Great progress was made by myself in correcting these irregularities, and amending the records. Mr. Montgomery has since been actively employed in the same way, and I trust that all material defects have already been remedied, or will be soon.

134th. The circumstances of Cheriakote and Keriak Mittoo are so similar, that they may be considered together. These were surveyed by Captain Simmonds, and settled by Mr. Montgomery in the season of 1834-5. The culturable area has been often overstated. There is no reason, however, to think that the defects of this survey have produced any evil consequences.

135th. The assessment is light. It has been collected now for two years without any balance, or the smallest difficulty. In June of each year, the whole demand for the Fussly year, beginning on the 1st of October, has been collected.

136th. There is no reason to believe that the boundary work has been otherwise than well done, and that thoroughly. A few cases about which doubts existed, have since been examined and put to rights.

137th. The rights of proprietors and rent rates have been generally recorded, but the complete form, subsequently introduced, was not then in use. Voluntary agreements were not then entered into by the proprietors, and the partition of the waste land in each village amongst the several co-parceners has not been so thoroughly done here as elsewhere. The rule of partition has always been fixed, but that rule has not yet been universally carried into effect.

138th. The survey and settlement of Pergunnah Belhabans were completed in the same season of 1834-5. The survey was conducted under the immediate superintendence of Lieut. Fordyce, then an Assistant to Capt. Simmonds, and was executed in a superior manner. The Pergunnah is held by one large brotherhood of Bais Rajpoots, who agreed to their Jumma in the gross, and distributed it themselves equally on every beegah of cultivation throughout. This singular proceeding was prevented from falling unequally on the several members of the communities, from the circumstance of the property of each being scattered about different Mouzals, and in the mode generally known as *khet khut*, so that every man had land of each sort. It must however be borne in mind, that this measure has produced a very unequal village assessment, as those which have poor lands are taxed equally with those that contain good lands. Each Mehal must always be held responsible for its Jumma, not each Mouzah.

139th. The assessment is light, but some difficulty will always be experienced in collecting it, for the people are very unruly, and bear a bad reputation in the district. They are said, it is to be feared with reason, to harbour thieves and bad characters of all descriptions, and no doubt to participate in their gains.

140th. Something is wanting in the Pergunnah in working out the principle laid down at the time of settlement regarding the division of the waste land in each village amongst the several Puttees. This has not been regularly enforced, and no doubt cases exist, where an actual partition is necessary, and ought to be immediately carried through.

141st. Pergunnah Deogaon was surveyed by Mr. Terraneau in the season of 1834-5, and settled by myself in 1835-36.

142nd. The boundaries were very well laid down by the Native Deputy Collector, Seyud Nawazish Ali, and the very respectable Tuh-sildar, Meer Muxood Ali. The villages were so much broken and intermixed, that this was a work of no ordinary difficulty. It was done not only completely, but with the fewest possible complaints, either on the score of partiality or unnecessary expense.

143rd. This Pergunnah was unfortunately chosen as the one in which a new survey party commenced its operations. The villages often consisted of broken fragments of land, some larger, some smaller, some mere fields, others tracts of cultivated and uncultivated land, scattered about at considerable distances from each other. The only way to survey those villages satisfactorily would have been to make certain defined circuits in different directions, of the ordinary size of villages, and corresponding as nearly as convenient with existing boundaries, to have surveyed the same circuits professionally, and by native Ameens, and after thus testing the accuracy of the latter, to have taken out from the native field maps the several fields or parcels of land constituting each village, and to have added these up as giving the total area. This however was seldom attempted, and where it was tried, was done so incorrectly as to be nugatory. The native measurements were frequently approved, and passed as agreeing with the professional, when the areas surveyed were totally different. The professional survey itself is often grossly incorrect, both in its representation of the cultivation, and its delineation of the boundaries. The native maps have received scarcely any check, several of them are scarcely intelligible, and in many fields belonging to different persons, different Puttecs, and even different Mehals, have been grouped together in one number.

144th. I have done what I could to remedy this state of things, by examining the boundaries, making additional native maps where necessary, distributing the fields and holdings afresh. Such inaccuracies in the professional maps as I happened to meet with, were noted on their face, but I well know that there are many which must have escaped me. The total areas were taken from the professional survey, so that the total of the Pergunnah, according to the survey, and according to the settlement papers will agree, but the areas of the several villages will often differ considerably, owing to the adjustments which were found necessary.

145th. This Pergunnah was the highest assessed in the district, and very little increase on the former settlement could be anticipated. Not only was the rate of the former Jumma on the land high, but the land itself is inferior in quality to that of other parts of the dis-

trict, yielding mostly very uncertain rice crops, and the Zemindars are numerous, each holding a small portion of Seer land on which he subsists, whilst from being Rajpoots of high caste, they are unthrifty cultivators. The main object in the settlement was to equalize the assessment, and much has been done towards this. The settlement has perhaps given more satisfaction than any other in the district, and this result was mainly attributable to the impartial, upright, and very conciliatory conduct of the Tuhsildar.

146th. In estimating the character of the settlement by the averages, it must be borne in mind that the cultivated area has certainly been under-measured, and that no land has been put down by the professional survey under the head of culturable. Whatever was not under the plough, or had not evidently been so within the two or three preceding years, was classed as barren waste.

147th. The record of proprietary rights has been carefully, and well done by the Tuhsildar. The Persian papers are very complete, though the English statements have not been as yet drawn out in the form best adapted to elucidate the peculiar tenures of the Pergunnah. These however are now in a course of preparation, on a plan prescribed by the Sudder Board of Revenue subsequently to the conclusion of the proceedings. No difficulty will be experienced in giving the materials any form which may be thought most expedient.

148th. Pergunnah Mahol was surveyed by Lieutenant Fordyce, in the seasons 1834-5 and 1835-6, and settled by Mr. Montgomery, in the latter year.

149th. The boundaries were mostly laid down by the Native Deputy Collector, and by the Tuhsildar, Buksish Ally Khan. The work was not satisfactorily performed. The people are low, and litigious. The Tuhsildar had little experience in the Pergunnah.

150th. The survey was very well conducted, and may be relied upon.

151st. The settlement though showing a high average, is very light, for the land is exceedingly valuable. The finest Sugar land, perhaps, in all India is to be found here.

152. The tenures are simple, being mostly Zemindarry, where the co-parceners held jointly or severally according to their hereditary shares. The point of greatest importance was the formation of good rent rolls to show the rights, holding, and rates of all the non-proprietary cultivators. This has been carefully done by Mr. Montgomery, and these relations are now placed on the best footing. The rent rolls, or *Jummabundee*, were formed after the settlement, drawn up in the common Nagree character, published to those concerned in every possi-



ble way, by personal explanation to as many as were present, and by suspension in the village before the eyes of all ; objections against any parts of these were afterwards heard, and orders passed as each case required.

153rd. Pergunnahs Mahomedabad, Gohna, and Mhow were surveyed in the years 1834-5, and 1835-6, and settled by myself in the latter year.

154th. The boundaries were decided and marked off by two Tuh-sildars, Ahmed-oolah Khan, and Zuheer-ool-huk, who were there successively under the personal superintendence, first of Mr. Montgomery and Mr. Chester, and latterly of myself. These proceedings were unnecessarily protracted, rendered very expensive to the people, and sometimes in the final result unfair. Great exertions have however been used to render them complete, and to correct any errors that may have been committed. The undertaking was of vital importance to the prosperity of the district, for there is much waste land, the title to which was greatly disputed, of great capability, and now covered with wood, which is in high demand at the Sugar factories scattered all over the district.

155th. The boundaries were often erroneously laid down, and little pains taken to reconcile the professional and *khusreh* maps. The important point to be borne in mind is, that the professional map cannot always in itself, and alone, be held conclusive on the form of a boundary. Before a certain conclusion can be arrived at, the maps of the two continuous Mouzahs must be compared, the proceeding held on the adjudication of the boundaries examined, and reference had to the *khusreh* maps, and any other sketches of the boundary there may be. If the process be carefully conducted, on the occurrence of any dispute it will be impossible to fall into any great error.

156th. The assessment is light, more so than is shown by the averages, for there is good reason to believe that the cultivated land was much under-measured, and the culturable land was avowedly shown as barren waste.

157th. Great exertions were used to make the records of proprietary rights and rent rates as perfect as could be, and sanguine hopes may be entertained, that these are placed on a satisfactory footing.

158th. The Pergunnahs of Gopalpore, Kowreeah, and Atrawleeah Tilhenee were surveyed by Lieut. Fordyce in 1835-6, and settled by Mr. Montgomery in 1836-7. Three large Talookahs had however been previously settled by the late Mr. George Bird, in 1831-2, and the arrangement confirmed by the Government. These were incor-

porated into the present settlement, with no further change than the extension of the period of the lease.

159th. The boundary work was done almost entirely by the Tuh-sildar, Sheikh Waheedooz-zuman, with constant supervision and occasional assistance from the Native Deputy Collector, or the European functionaries. It appears to have been very well performed.

• 160th. The survey was well conducted. These Pergunnahs are undoubtedly the best surveyed in the district.

161st. The assessment is fair and equable. Adverting to the nature and capabilities of the soil, it is low ; but if the character of the people and the nature of the tenures is borne in mind, it is quite as high as it ought to be. In comparing the averages of this assessment with those in other Pergunnahs, it must be remembered that here the survey is a very faithful representation of the extent and character of the land, and that therefore the rate of assessment is not actually as much below that of the rest as it appears to be. The Zemindars are high caste, pugnacious Rajpoots, and their tenures *bhyachara*. There are also many Brahmins who hold lands at low rates as under-tenants, and exercise a powerful religious influence over their superstitious landlords. The revenue administration of this district has always been most difficult. The late operations will materially facilitate the collections, but still difficulties must be anticipated. It is only some years of firm and consistent rule, which will suffice to bring the turbulent inhabitants to industrious and regular habits.

162nd. The settlement of Pergunnah Suggree occupied a long period, and was not finally completed till the year 1836-7. Some few settlements were made by Mr. Barlow, under Regulation vii, 1822, but the greatest bulk by Mr. Montgomery, who also recast the prior settlements. The work was completed and reported in 1834, before the introduction of the new system, but the Commissioner judiciously declined forwarding the report then, and desired the whole to be reviewed under the new rule. This was admirably done by Mr. Montgomery.

163rd. The Kishwaree survey was long ago completed by the revenue authorities, so that the Surveyor was relieved from this duty, and desired merely to survey the boundaries, sketching on the geographical features of the country and omitting the interior survey, or that part of the operations which was designed to distinguish the cultivated from the uncultivated lands.

164th. The adjustment of boundaries had formerly, as in Pergunnah Nizamabad, been much mismanaged, but before the approach of the survey these were all definitely settled, and well marked off, so

that no difficulty was experienced. Some of the decisions may, as in other cases, have been unfair, but the survey is now a faithful record of what the decision was. There can never be any doubt hereafter on that score. The professional operations afforded also a complete and very satisfactory proof of the correctness of the former Khusrey survey.

165th. The assessment is light and equable, and has now for three years been collected without any balance. The record of proprietary rights, &c. has been completed on the plan prescribed, and the settlement is now as perfect as of any other of the district; though it has only been brought to this state at a great expense to the people, and with much personal vexation to them.

166th. Pergunnahs Ghosee and Nuthoopoor were surveyed by Mr. Terraneau in 1835-6, and settled in 1836-7 partly by myself and partly by Mr. Montgomery. The boundary work had been slowly advancing for the preceding year or two, but it was completed by the Native Deputy Collector just previous to the survey. The work was ill done. The large quantity of rich land lying waste about different parts of the Pergunnahs rendered it certainly a task of some difficulty, whilst the wealth and intriguing character of some powerful men in the Pergunnahs added to the difficulty of executing the work with fairness to all parties. The evil, instead of being detected and exposed by the survey, was concealed and aggravated by its operations. Not only were the defects of the demarcation concealed, but where the demarcation was plain and evident, and no dispute whatever existed, errors of the most fatal nature were committed in the survey. Had the professional maps been received and recorded without question, the greatest confusion would have ensued. As it was, the assistance of a professional surveyor was obtained. All the maps were carefully reviewed, compared with each other, with the record of the adjudication of the boundary, and with the Ameen's map. Whenever any doubt existed, a personal examination of the boundary and renewal of the demarcation took place. This was superintended either by myself or by Mr. Montgomery. We always found that adequate decisions had been passed, but that these decisions had not always been clearly marked off. The whole has been now carefully corrected, and no future doubts can well arise, as to the position and direction of the boundary. I am however bound to say, that owing to various causes, which it is needless to enumerate here, the decisions have been more influenced by corrupt motives, and are more unfair, than in any other part of the district.

167th. The assessment is light, and will be easily paid, as the soil is very rich, and there is much fine culturable land, which will

rapidly be brought into cultivation. It must also be borne in mind that the cultivation has been under-measured. The rights, &c. of the proprietors have been well recorded, and the subsequent separation of shares generally completed.

168th. The settlement of each Pergunnah has been thus reviewed. Under ordinary seasons, and with good management, I have little doubt of the stability of the whole, with the exception of a few villages in Nizamabad.

169th. If the present demand for the staples of the district, Sugar, Opium, and Indigo, continues undiminished for a few years, the advance of the district in wealth and prosperity will be more than repaid. Its welfare will however depend much for the few first years on the firmness of the civil administration. If the arrangements made at the settlement are disregarded, the boundaries violated, the rights of proprietors and cultivators neglected, and misrule allowed to prevail, great confusion will ensue, industry will be checked, and improvement stopped. The effect also will immediately be felt in the collections of the Government revenue. The number of persons from whom these collections are to be made are numerous, and their rights nicely balanced. Each man now knows what he has to pay, and it will be difficult to make the redundancy of one compensate for the deficiency of another. If rights are usurped, the injured party will be deprived of the power of meeting the demand against him, and a balance will accrue. If hereafter balances should arise in the district, it must be remembered that this may be occasioned by mal-administration as well as by other causes, and is more likely perhaps to do so here than in many other parts of the country.

170th. The Tuhsildarce establishment should not be diminished. It is now strong and well disposed, but this is necessary on account of the minute division of property, and the numerous persons from whom the collections have to be made.

171st. Much increase must not be expected to the present demand. The Pergunnah of Deogaon is settled fully as high as it can ever bear. Much good would arise from its being declared perpetual. The same is the case in Gopalpoor, Kororeeah, and Atroleeah. Tilhenec. In Mahol, Cheriakote, Belhabans, and Suggree, the assessment has reached its maximum, or so nearly, that further investigation would not be repaid. In Nizamabad there is still much valuable uncultivated land. The total demand from this Pergunnah will probably never be increased, but its readjustment and fresh distribution after the expiration of the present period of settlement would be a great advantage. In Mahomedabad, Mhow, Ghoosee, and Nuthopoor there is still much

valuable waste land, which will probably be made productive in the course of the present lease. Fifty thousand rupees might thus very probably be added to the rent roll of Government on the renewal of the settlement.

(Signed) J. THOMASON,

Collector of Azimgurh.

Offy. Secy. to the Lt. Govr., N. W. P.

Agra, December 16th, 1837.

## ART. II.—MR. HODGSON, on *Cuculus*.

To the Editor of the Journal of the Asiatic Society.

SIR,—Amongst the numerous new birds forwarded by me to London, some years back, when I was young enough to imagine that learned Societies existed solely for the disinterested promotion of science, was a very singular form combining all the essential internal and external characters of *Cuculus* with the entire aspect of *Dicrurus*.

Unceremoniously as many others of my novelties have been appropriated, this one still, I believe, remains undescribed, and I therefore beg to present to you a description and sketch of it.

SCANSORES,

*Cuculida*,

Genus *Pseudornis* nob,

Generic character, essential characters of *Cuculus* with the entire aspect of *Dicrurus*. Tail 10, forked. Type *Pseudornis Dicruroides* nob. Habitat. The mountains exclusively. Specific character, Black, with a changeable blue or green gloss. Inner wing and tail coverts, and pair of extreme tail feathers, cross barred with white. An oblique white bar across the wings internally, and high up. Bill black. Iris hoary brown. Palate red. Legs and feet blue. 10 to 10½ inches long, whereof the bill is  $1\frac{1}{16}$  and the tail  $5\frac{1}{2}$  to  $5\frac{3}{4}$ . Tarsus  $\frac{12}{16}$ . Long anteal toe  $\frac{11}{16}$ . Long postal toe  $\frac{9}{16}$ . Weight  $1\frac{1}{2}$  oz. Sexes alike. General manners of *Cuculus*, but exclusively monticulous and a forester.

Remark.—The bill, tongue, feet, and wings are precisely those of *Cuculus canorus*, with these trivial diversities—if such they can be reckoned—that the wing is hardly so elongated, and the bill is less rounded on the culmen.

The tail consists of ten feathers, and is both in relative size and in form like that of the genus *Dicrurus*; that is to say, it has ten feathers, and is divaricated and forked, though the fork be not deep.



**PSEUDORNIS DICRUROIDES NOB.**

Type of GENUS PSEUDORNIS NOB.  $\frac{1}{2}$  Nat. Sinc

T. Blin-*i* Asiatic Fish Press. Calcutta.



There is this difference, however, as compared with the Dicrurine tail, that in our bird the two extreme feathers are much *smaller* than any of the rest; whence the fork of the tail becomes lessened in depth, these plumes not contributing to it.

The singular assumption of the entire aspect of so remote a genus as *Dicrurus* on the part of this strictly Cuculine bird will, I fancy, be generally considered extraordinary; and has suggested the generic name of *Pseudornis* (ψευδος falsus) The *Cuculus lugubris*, although described as having a *wedged* tail, will, I think, be found to have a *forked* one, and to constitute a second species of our proposed new genus, which will be, in that event, placed on a firm basis.

If it be remarked, that supposing *Lugubris* to have really a forked tail, it is, in fact, specifically identical with our bird, why then the specific name *Dicuroides* will merge in that of *Lugubris*, but the new type of form may still claim to be recognised, and surely will do so.

The green glossed black plumage and the forked tail, are as universally the marks of the Dicrurine sub-family as they are, I believe, universally excluded from the *Cuculidae*.

I am, Sir,

Your most obedient servant,

W. B. HODGSON.

Nepal, March, 1839.

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ART. III.—*Report on the Coal and Iron Mines of Tálcheer and Ungool, also remarks on the country through which it was necessary to travel in search of those minerals, the produce, inhabitants, nature of the soil, roads, &c. &c.* By Mr. M. KITTOE, Curator and Librarian Asiatic Society's Museum.

March 31st, 1838.

All necessary preparations having been made, and assistance received from the superintendent tributary Mehauls, I left Cuttack on the 14th March, in company with Mr. R. Beetson, (contractor for the transport of salt from the coast to Calcutta) and proceeded by regular marches through Dhenkennal, direct from Kuckur on the Mahanuddee to the Brahmenee at Atturva, encamping first at Kuckur Govindpoor, and secondly at Deogaon, under the famous hill of Kuppilás, near to the summit of which, at an elevation of 1000 or 1200 feet, is a fine spring of fresh water, round which are several ancient temples built by Pertaub Rudr Deo, king of Kalinga, in the sixteenth century of the Christian era.



From Atturva we proceeded up the south bank of the Brahmenee to Tálcheergurh, where we arrived on the seventh day, encamping at Nadurra. and Kumalung, the distance travelled being 30 Ooriya coss of  $2\frac{1}{2}$  miles to the coss on an average.

We halted one day at Tálcheer, and interchanged visits with the Rájá (who is a very intelligent man, and has travelled all over India) likewise his eldest son. I presented the old gentleman with a musical snuff-box, with which he was much delighted.

After duly examining the coal beds I proceeded to Mungulpersád, a stockaded village on the borders of Ungool, the distance seven coss in a westerly direction, over an undulating country, with, generally speaking, indifferent soil and much shingle.

We remained one day at this place, and having inspected the coal beds, &c. returned by a more direct (though crooked enough) route through the states of Tálcheer and Ungool, to the bank of the river (at Mungulpoor) along which we proceeded, via Nadurra, Nágnáth, Chundpál, Kapeepoor, to Kewátbund, near to which place the river enters the plains, throwing off that branch called the Kursooa, which is the only navigable channel to the sea. We reached this place on the 26th, thirteen days from the date of our leaving Cuttack.

The country is neither so mountainous nor jungly as it is represented to be, but for the most part, much neglected; although the soil appears generally good, and productive.

The lands in the immediate vicinity of the Brahmenee are very rich. Great quantities of cotton, sugar-cane, castor-oil plant, linseed, &c. &c. are grown for home consumption, as well as for exportation; the chief profits of which are monopolized by the Mukhtears and Survurakars of the states, who farm the villages from the Rájá, and make the most of their bargain by extorting the utmost fraction from the cultivators, who are in fact mere slaves; indeed so are all the inhabitants of these hill provinces; they nevertheless seem happy in their poverty and degraded state.

A great deal of very fine tobacco is grown along the banks and on the muddy deposits of the river, and such lands fetch an exceeding high rent; notwithstanding which the profits on this article of commerce are very great.

Wheat and barley are cultivated in small quantities, and what little I saw appeared to grow most luxuriantly; maize, &c. is also grown on the high lands by the meaner classes, but rice is the chief article of food.

The land in Tálcheer and in Ungool is not so good as in Dherkuomál; and the trees are stunted in growth owing to the shingle.

laterite, and sandstone rocks which are near the surface. There is more jungle and waste land on the opposite side of the river.

From the third march from Atturva to the plains (commencing at Kewátbund) the level lands vary much in extent, the hills in some places coming within 2 or 400 yards of the river, and in others, receding for two or three miles, forming no connected chain, but all more or less isolated (apparently of volcanic origin), the land between them being perfectly level, except where ravines or beds of laterite and kunker occur to interrupt it. At Atturva the hills recede gradually, till at Kurugpursád they branch off in a south-westerly direction, through the state of Hindole into Ungool, towards the Mahanudde; the hills on the opposite side of the river also recede in a north westerly direction towards Keonjur and Bounnaragurh.

Shortly before reaching Kurugpursád the country commences to be undulating, and extensive beds of shingle occur, with red márl. Sandstone rocks are met with at Mungulpoor, protruding through the soil, which are very close grained and white; granite also sometimes occurs in huge detached masses, which have a very singular appearance, particularly at Kukurdung, in Ungool, where they rise in detached blocks of sixteen and eighteen feet in height, and of most fantastic shapes, somewhat resembling the Stonehenge. The land on the north bank of the river is likewise undulating, with rocks. No hills of any magnitude are to be found within twenty or thirty miles of Tálcheer and the coal localities visited by me.

From Tálcheergurh to Mungulpersád, a distance of sixteen miles or more, I saw much shingle and rising ground, on which there is iron ore and laterite, also kunker (calcareous nodules) and sandstone rocks. I observed near the different villages much scattered cultivation beneath the sál and other jungle trees, the underwood having been cleared away; this is the consequence of overtaking the arable and clear lands, and taking nothing for cultivation of this kind, which is little inferior to the best.

There are no wells, and but few tanks throughout the country. Except in the low lands, in the vicinity of the river, water is very scarce, and what little there is, is of bad quality, particularly in Ungool, where some of the wells and tanks contain naphtha.

There is much waste land overgrown with long grass, which affords excellent pasturage for buffaloes and cows; there are consequently very fine herds of both descriptions of cattle, which are far superior to those of the Mogulbundee (or plains). There are but few goats and sheep.

The people of these states are more artful than even the inhabi-

tants of the plains of Oorissa, who are bad enough. Their craftiness is beyond any thing credible. I have travelled a great deal during my residence in India, and had much intercourse with the different classes of natives, but never did I meet with such provoking knaves as the people of the Gurhjât (hill states). It is next to impossible to obtain any correct information even on the most trivial subjects. Every question put by a stranger is considered and re-considered, ere a reply is given, and that, too, is an interrogation as to the object you have in asking it. And should you ask the distance from one place to another, you will be answered at random, or told, "I don't know; I have never been there; I was born in this village; so was my father," and such like;—this is to prevent your asking them to go with you and show the path, and if you take them, they will lead you by the most tortuous route.

I was informed that it is more than any ryot's head is worth to give information regarding the internal economy of the state, or about its resources, or, indeed, on any subject. With such people to deal with, it is not surprising that very little information has been gained by me during such a hurried trip. What I have obtained regarding the Hingolae mines, was from an ascetic, to whom I made a suitable present. I also heard of coal and iron mines in Bumurragurh, from a merchant of Cuttack, and accordingly despatched an intelligent peon to examine them, and to bring specimens, &c.

There is no road along the banks of the Brahmennee, but an irregular and narrow footpath; indeed there are no hackery roads at all. The only road of any consequence is that leading from Cuttack through Dhenkennalgurh, past Kurugpursád and Mungulpoor, and on to Boad; it is tolerably wide and smooth, and is much frequented by Bunjaruhs, who bring cotton, iron, and turmeric in return for salt and tobacco. From Mungulpoor, onwards, the road is nearly due east and west.

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#### *Remarks on the Water Carriage for Coal, &c. &c.*

The Brahmennee is navigable for good sized boats from the end of June to the middle of December, and sometimes later. Coal could be laden in small canoes and conveyed to Kurugpursád at most seasons of the year indeed. The Dhenkennal boatmen assert that small boats only can navigate the river above that place at any season owing to the numerous rocks; this is however not to be relied upon, for there are but few, which could be removed at a trifling expense.

From Kewatbund (at the edge of the plains) boats and rafts are floated down that branch called the Kursooa.

The furthest point towards the sea to which the coal could be taken is Hunsooagolá, where large sloops anchor. It would be preferable to make this place a *depôt*, Auligurh being many miles further up the river. It is to these places that Messrs. Beetson's sloops come for salt. There is a bankshall belonging to them at Aul, where sloops are built and repaired. The timber is cut and purchased in Dhenkennal, where it is very cheap, and may be had of any size and quality, viz. *sál*, *sissoo*, *bijesál*, *kúrumb*, *gírahu*, &c. A native contractor offered to carry the coal from Tálcheer to Hunsooagola, at the rate of twenty-five rupees per 100 maunds, or four annas per maund; the boats making three trips each season. The lading is included in this amount. Mr. Beetson however informs me that it could be done for one anna per maund, or, at the utmost, two annas.

From Hunsooa Mr. Beetson would contract to carry the coal to Calcutta, or to any port lower down the coast; and from his experience of the natives of Oorissa, and his industrious habits, I should venture to recommend any contract for the working of the mines, or transport of the mineral, to be offered to him.

The iron mines are worked by the different traders, who give grain, tobacco, and salt, to the value of one rupee per maund of metal. Should the coal mines be worked eventually, it would be necessary to pay for the labour in like manner, for money is unknown to the lower orders; cowries alone are current, and there is a great scarcity of them even. Although there are but few inhabitants, many poor people from the surrounding states would flock to earn food, if proper protection be afforded them. Some difficulty would be experienced at the outset, but that would soon subside.

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### *On the Tálcheer Coal.*

That which I shall distinguish by the appellation of "Tálcheer Coal," is found near the town and guruh of that name; the town gives name to the whole district, which is 14 Oorceya coss in circumference, or forty-two English miles, more or less.

Tálcheergurh (the Rája's stockaded palace) and town (called Patna) are situated on the south bank of the river Brahmenee, on a sandstone rock, rising to the height of 20 or 30 feet from the level of the water. The surrounding country is undulating, with a thin stratum of soil resting on shingle, composed of the debris of primitive

rocks, iron clay, jasper, &c. Half a mile or less above the guruh, is a small nullá called, "Billaijooree," about fifteen yards wide, with a sandy bed, and dry except in the rainy season after heavy falls in the interior, where it takes its rise, and winding considerably, joins ultimately with the Brahmennee at this place.

About 400 yards from the mouth of the nullá, coal seams are exposed to view for some distance along the banks, alternately, on either side; these seams vary in quality and thickness, and are curved parallel with the undulations of the superstrata. In almost every place where the coal seams cease abruptly, they will be found to rest against the sandstone.

The superstrata generally consist of alluvial soil, shingle, marl, blue clay passing into peat, mixing with shale and coal of inferior quality, beneath which the good coal is found; this again rests on indurated blue clay containing particles of coal, mica, and fossil plants. The stratum is about  $1\frac{1}{2}$  foot thick, beneath which a stiff grey clay mixed with sand and mica, is found.

I made a perpendicular cut in the north bank, at a spot where inferior specimens had been collected by workmen sent some years ago by Mr. G. Becher, executive officer of the division. Having dug down for two or three feet below the surface of the bed of the nullá, I met with a hard blue rock containing particles of coal and fossil plants, in this I bored a hole  $1\frac{1}{2}$  foot deep, and blasted it with one pound of country powder, which enabled me to ascertain the thickness, viz.  $1\frac{1}{2}$  foot, as before said.

The section thus afforded, gave

Shingle and clay, averaging, . . . . .	10 ft.
Blue clay passing into peat, . . . . .	$1\frac{1}{2}$ ft.
Shale, or slaty coal and lignite, . . . .	$1\frac{1}{2}$ ft.
Good glistening coal, . . . . .	1 to $1\frac{1}{2}$ ft.
Grey rock with fossils and coal, . . . .	1 ft.
Ditto ditto, with mica, . . . . .	6 inches,
Stiff grey clay with mica and sand (?)	

Digging a few feet apart from this spot, in the bed of the nullá, the coal was three feet below the surface, without the peat and clay, &c. and under the opposite bank the coal is several feet deeper still.

I burnt a heap consisting of several maunds of the different kinds mixed together, the whole was consumed, leaving fine white ashes, but no cinder or coke. The glistening or good qualities emitted much gas, and burnt with a bright flame; the remainder soon attained a red heat with less gas—the whole gave out an intense heat.

The bed of coal thus examined is (as will have appeared) very thin,

but I should think that on mining, any quantity could be obtained, and at little cost, from its being so near the surface, and labor cheap in the extreme. It possesses, further, great advantages in being so near to a navigable river.

I shall treat hereafter on the method of working the mines, and of transporting the coal, &c. in a separate paper at the close of my report.

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*Coal fields of the Hingolai Tacooranee at Mungulpersád.*

Of the two coal fields exposed to view, and which were visited by me, that which I have called the "Tacooranee" is the more extensive. It is laid bare by a broad nullá passing through it, called the "Sungurra," it comes from the hills in Ungool, in a south-westerly direction, and is about thirty yards wide, having a sandy bed. The coal appears on either side alternately, for a distance of upwards of a mile, the beds averaging from five to fifteen feet and more in height from the level of the sand. This coal (like that at Tálcheer) rests against the sandstone, and in some places passes into it, apparently mixing with it. The quality of the mineral varies very considerably, as will be seen by the numerous specimens presented to the Committee.

In one spot the coal has apparently been reduced to ash by volcanic action for a space of fifty yards, and upheaved above the common level of the contiguous beds; it is bounded at each extremity by dykes of white rock.

The superstrata vary in kind and thickness; in some places there is blue clay, above which is marl and shingle; in others, simply marl and iron ore, laterite, and shingle, and frequently but a thin stratum of clay. At the spot where the "Tacooranee" (goddess) called "Hingolai" is supposed to preside, the coal is entirely bare for a space of 1000 or 1200 yards (superficial) with an undulating surface. It is at this place that at the full of the moon of Chát-Byesk, the priesthood set fire to a heap of coal, which they keep burning for three successive days, commencing the day preceding the full of the moon, when hundreds of deluded creatures flock from the surrounding country to worship the goddess of destruction, who is supposed thus to shew her presence in the burning rock. I was unable to ascertain how far up the nullá the coal is exposed to view, as the inhabitants of one state will say nothing about their own country, and still less about that of another Rája; and as the Ungool territory is only half a mile distant, without any alteration in the general appearance of the country, which is undulating, I did not deem it necessary

to proceed further. There was sufficient coal at this place to afford an ample supply for the next century.

The cost here of working either the coal or iron mines would be the same as at Tálcheer, it would, however, be necessary to construct a road (perhaps a rail road) to the river side, a distance of sixteen or eighteen miles, but perhaps less in a direct line. The nullá is not navigable at any season, however from the tolerably level nature of the country it might be rendered so for two or three months, by constructing dams and locks at convenient distances. At all seasons water is found from one to three feet below the surface of the sand; this prevented my ascertaining the actual depth of the coal measures and the quality of the lower veins.

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#### *Note on the Iron Mines.*

Iron ore is found in great abundance both in Tálcheer and in the adjacent states of Ungool and Dhenkennal. There are iron works in cach, and the Cuttack and Berhampoor markets are supplied by them. Some of the iron is of a superior and malleable quantity, but much of it is very coarse-grained and brittle, the prices vary accordingly.

I saw the remains of several iron works on the road between Tálcheer and Mungulpersád, the "Lohorás," or iron workers, having forsaken them last year in consequence of the famine, and subsequent pestilence (cholera) which almost depopulated the country.

The process of smelting the ore is the same as that pursued in other parts of India, and which therefore it will be superfluous for me to describe.

Had I met with any iron workers I would have tried to smelt the ore with coal, as it is abundant on the surface at the coal mines, as I have before mentioned.

A great quantity of iron is made in the Sumbulpoor state also.

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ART. IV.—*Objects of Research in Affghanistan.* By PROFESSOR LASSEN, of Bonn.

[We have the pleasure to insert the following article by Professor Lassen, and which in order that no time should be lost in its circulation, we have already caused to be published in the Newspapers of this Presidency. Such communications as Professor Lassen's queries may elicit we shall be happy to publish without delay.—Eds.]

1. A country which has hitherto not been explored, is Kandahar and its neighbourhood ; the capital of Demetrius, called by his name Demetrias, was situated in Arachosia, and it seems probable, that coins of Demetrius will be found most numerous in that part of Affghanistan, if Mr. Masson should have means for sending some qualified person there. Another class of coins might also be chiefly expected from Kandahar. Arachosia belonged, at least generally, to the empire of the Arsacidæ, who can only be supposed to have occasionally possessed parts of Kabul ; Parthian coins bearing a Greek legend on one side and a Bactrian on the other, will probably have been struck only by such kings, as ruled in Kabul and its neighbourhood. Vonones (or by the native legend his son Vologases) is the only known Parthian king, from whom we have as yet coins of the above description ; another name found on a coin published by Swinton is not legible ; a new coin was lately edited by Mr. Millingan, having no Greek, only a Bactrian legend, evidently an Arsacidan one, though not legible. It would be of great importance to complete this Parthian series, because the chronology of the Arsacidæ might then be brought to bear on that of the Indo-Scythians.

2. From the country to the westward of Kabul and the sources of the Kabul river, which the Chinese call by the name of Kissin, coins of the first dynasty of Indo-Scythians may be expected chiefly, if the researches could be extended to the neighbourhood of the Lake Yarah. Segistan still bears the names of the first Indo-Scythians, who were properly called Sacæ, and their capital must have been somewhere in Drangiana. Also the Greek king Artimachus appears from one of his coins to have reigned near the Lake Yarah, and it would not be unreasonable to expect coins of him and his successors, (perhaps even Greek monuments of other kinds,) from those tracts, if made accessible.

3. The town Nagara, mentioned by Ptolemæus, with the Greek surname of Dionysopolis, must have been the capital of some Greek kingdom, probably of Agathocles and Pantalcon, who exhibit the symbols of Dionysos on their coins. The Chinese mention Nakoloho which is the same name, as the site of the flourishing Buddhist establishment, about 400 years of our era in the Chinese place



Nakoloho on the river Hilo, which must be the Hir found on D'Anville's maps. It would be of importance to determine the exact situation of Nagara, and to ascertain, whether the name both of the river and the ancient town are not still traceable. I suppose the Hir to be Surshud. The ruin of Nagara may be expected to yield a new harvest of Greek coins, and its neighbourhood might perhaps furnish us with Greek inscriptions.

4. Sultan Baber mentions a monument in Lawghan, which the Mahomedans supposed to be the grave of Lamech; the Chinese travellers passed through this country, called by them Larpho, on the road to Peshawer, from which it may be concluded, that they went to see some Buddhist monument there. Would it not be possible to get some further information of what remains still to be found in Lawghan?

5. Pliny mentions a town Copissa, 'destroyed by Cyrus,' in the country of the Paropomasidæ; by the accounts of the Chinese travellers Kapisa is the valley of the Gurbad river. Are no remains to be found along that river? and is the name at present quite unknown? It would be of some interest, because it might be conjectured that the name of Kapisa has some relation to the name of the king Kadphises, who on his coins spells his name in the native legend Kapissa.

6. The Chinese speak of a flourishing Buddhist kingdom Udjana, or Ujjana, which was situated on the western bank of the Indus and on the Sewad river, the capital was not far from the last mentioned one, and was called Mangala. As far as I know, this country has not been explored at all, and might be expected to yield coins of the dynasty ruling for several centuries there: topes might also be sought for in that neighbourhood.

7. Jan Messon, as well as Sultan Baber, speaks often of a river, which he calls Baran, without giving any more definite description of its course. Is this river different from the lower part of the Penjhir? or is it only the name for a part of that river?

8. A theory has lately been set forth respecting the topes, that they are to be regarded as dehgops, and contain relics of Buddhist saints; moreover, that the coins found in them have been placed there at different times as offerings, and consequently that the date of coins found in a tope, affords no clue to the period of its erection. Now, this theory supposes that the topes had entrances and openings, by which the coins might be inserted, and the relics taken out at certain festivals to be shown to the people, as is mentioned by the Chinese travellers of dehgops. Are there any traces of such entrances or openings in any of the topes of Kabulistan?

9. Is the dialect of the Kohistanis of Kabulistan a peculiar one, or related to the Lawghans, or that of the inhabitants of Kaferstan?

10. The Kirdhikis mentioned by Mr. Elphinstone as forming part of the population of Eastern Kabulistan, speak an Indian dialect; is this dialect nearly related to Punjab? and are the Kirdhikis to be regarded as emigrants from India in comparatively modern times, or remains of the ancient Hindu population? As far down as to the times of Mahmud of Ghazna it may be shown, that the inhabitants of Kabulistan were Indians, and most probably direct descendants of the Gurses, Ascaders and Gandars spoken of by the ancients.

ART. V.—*On the detection of Arsenical Poisons by MARSH'S process—its inapplicability to the Sulphurets of Arsenic—and the mode of obviating the fallacy occasioned by Antimonial Compounds. By W. B. O'SHAUGHNESSY, M. D. Acting Joint-Secretary to the Asiatic Society.*

In December, 1836, I exhibited to a large party at Government House the very beautiful process invented by Mr. MARSH of Woolwich, for the detection of minute quantities of arsenical poisons. The method consists in placing the suspected substance in very dilute sulphuric acid, and introducing a slip of pure zinc. The hydrogen is evolved in combination with the metallic arsenic, and on examination presents most distinct and remarkable phenomena. If ignited, the flame is of a leaden blue color, and diffuses a powerful odour of garlic, and a dense white smoke. If the flame be reduced to the size of a pea, and applied to the interior of a thin glass tube, a crust of metallic arsenic is formed on the tube, surrounded by a white ring of arsenious acid. To this, by a little dexterous management, the several tests for arsenic may be applied, namely the ammoniacal-nitrates of silver and copper, and the sulphuretted hydrogen gas.

A few months after the meeting referred to, I had occasion to apply the process to the examination of the contents of the stomach of the Munshi of the Coroner's Office, who had been poisoned by arsenic contained in a ball of sweetmeat. The results were quite conclusive, and were, moreover, checked by the performance of the common process on a portion of the large quantity of arsenic adherent to the mucous membrane of the stomach.

Up to the time of this occurrence, and indeed for some months later, I participated in MARSH'S opinion, that this admirable process was applicable to all the arsenical poisons—to those not dissolved by water

as well as those soluble in that liquid; but on the occasion of a second death by one of these poisons, which came under investigation before the Police in 1838, I had proof that this opinion was erroneous.

The deceased was a young female, to whom a large quantity of crystallized yellow orpiment (sulphuret of arsenic) had been administered in curry, and in consequence of which she died after a few hours' illness. On examination of the body a quantity of yellow powder was readily separated from the contents of the stomach, and the mucous membrane of that organ was observed to be sprinkled all over with shining gold-like crystals.

On applying MARSH'S process to a portion of the yellow matter, no indications whatever of arsenic were obtained.

A quantity of the powder was then dissolved in liquid ammonia, and MARSH'S process applied, still with negative results.

I then tried the effect of converting the sulphuret into arsenious acid, which was done by boiling the yellow matter with a few drops of nitric acid. On diluting the solution with water, it was found that a single drop tested by MARSH'S method gave a most distinct metallic crust, which was readily proved to be arsenic by the application of the silver, copper, and sulphuretted hydrogen gas.

These facts are of much practical importance, especially in this country, where orpiment is commonly used as a poison. They shew that in all cases where arsenic may have been employed, we must, in the event of MARSH'S process proving negative, apply a modification of the experiment I have related, so as to bring the sulphuret of arsenic into the state of an oxide. For this purpose the insoluble parts of the contents of the stomach should be boiled in a capsule of glass or porcelain, with small quantities of nitric acid, until red fumes are no longer given off. The mass should then be diluted with water, neutralized with carbonate of potash or soda, and, lastly, examined by MARSH'S method.

To shew the delicacy of this process, I may state, that I have applied it to the one-tenth part of a grain of orpiment mixed with four ounces of solid and fluid animal matter. By boiling with nitric acid, diluting with water and neutralizing, ten ounces of a liquid mixture were obtained, from half a fluid ounce of which the metal was reduced, although the quantity could not have been quite the 200th part of a grain.

I have next to notice the only serious fallacy to which this most ingenious method is liable, and which was first pointed out by Mr. Thomson in the *Philosophical Magazine* for May, 1837. It consists in the indications given by the soluble antimonial compounds, several of which are employed in medicine, one especially as an emetic in the treatment of cases of suspected poisoning.

By repeating MARSH's process on a mixture containing tartarized antimony, it will be seen that the gas evolved burns with nearly the same color, and deposits a similar crust on the glass tube.

On examining closely the distinguishing characters of this crust, it is very possible for an experienced eye to distinguish it from one produced by arsenic. The eye however must be experienced indeed, and that to a degree which very few observers can be supposed to lay claim to. Again, the sulphuretted hydrogen produces with crusts of arsenic and antimony yellow stains so faintly differing in tint as to lend even a practised experimentalist but little assistance in his research. The sulphate of copper, again, gives only such indications as are too faint to be relied on individually, though of some value as corroborating evidence.

Nevertheless the silver test can be readily applied so as to give unquestionable evidence of the nature of the crust of metal and of oxide obtained by MARSH's process. This may be accomplished by a method which differs slightly from one pointed out by Mr. Thomson in the paper alluded to. The tube on cooling should be moistened with a solution of nitrate of silver in distilled water, and then held over the mouth of a bottle containing strong ammonia, so that the vapor may traverse the tube. If the crust be arsenical, it instantaneously assumes a vivid canary color, owing to the formation of the arsenite of silver. No approach to such an effect is produced by the antimonial compounds, so that this test affords a simple, but most conclusive check on MARSH's invaluable method.

It is right to repeat a precaution as to the zinc employed. That found in the bazar often contains traces of arsenic, and should always be tested itself by MARSH's process before being employed in pursuit of any legal investigation. Secondly, the zinc by which arsenic has been once detected should never be used again, as the surface often unites with and retains as much of that metal as may falsify a further experiment.

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• ART. VI.—*Proceedings of the Asiatic Society.*

*Wednesday Evening, the 6th February, 1839.*

The Honorable Sir E. RYAN, President, in the chair.

The Proceedings of the last Meeting were read and confirmed.

Messrs A. PORTEOUS and J. COWIE, proposed at the last Meeting, were ballotted for, and duly elected Members of the Society.

Mr. WM. JAMESON proposed by the President, seconded by Mr. H. T. PRINSEP.

The Honorable Sir H. SETON proposed by the President, seconded by the LORD BISHOP of Calcutta.

The Rev. JOHN HENRY PRATT, of Caius College, Cambridge, M. A. proposed by the President, seconded by the LORD BISHOP of Calcutta.

Mr. EDW. THOMAS proposed by Capt. FORBES, seconded by Dr. O'SHAUGHNESSY.

Mr. J. W. LAIDLAY proposed by Mr. W. STORM, seconded by Dr. O'SHAUGHNESSY.

Mr. A. C. DUNLOP proposed by Mr. HARE, seconded by Dr. GOODEVE.

Read a letter from C. G. MANSELL, Esq. stating that in consequence of his proceeding to England for a sort time he was obliged to withdraw from the Society, which he hoped to rejoin on his return to India.

Read the following letter from Government sanctioning the purchase of 100 copies of the Latin and Anamitan part of the Cochin-Chinese Dictionary, prepared by the Right Rev. the BISHOP of Isauropolis, for 1000 rupees, in addition to the payments already made for the first part of the work in question.

• No. 16.

• To W. B. O'SHAUGHNESSY, Esq. M. D. *Officiating Secretary Asiatic Society.*

• *Genl. Dept.*

SIR,—I am directed to acknowledge the receipt of your letter, dated the 22d ultimo, and in reply to state, that his Honor in Council has heretofore refused to incur the expense of 2000 rupees towards executing the revised Latin Anamitan Dictionary, nevertheless rather than the 100 copies subscribed for by Government should be mutilated, and imperfect, his Honor the President in Council consents to add 1000 rupees to the payments already made by Government, under the condition of obtaining 100 complete sets of the work, besides the separate vocabularies.

• I have the honor to be, Sir,

• Your most obedient servant,

• *Council Chamber, the 2d Jan. 1839.*

• H. T. PRINSEP,

• *Secy. to the Govt. of India.*

*Library.*

The following books were presented :

Transactions of the Society of Arts, &c. vol. 51, part 2nd—*by the Society.*

Rapport sur les Poissons Fossiles decouverts en Angleterre par L. Agassiz, Neuchâtel, 1835—*by the Author.*

Actes de la Societe Helvetique des Sciences Naturelles—*by the Society.*

Map of the Eastern Frontier of British India, with the adjacent countries extending to Yunan in China, by Capt. R. B. PEMBERTON—*by the Government of India.*

The following books were received from the booksellers :

Georgii Wilhelmi Freytagii Lexicon Arabico-Latinum, Tome 4th.

Lardner's Cabinet Cyclopædia—Literary Men of France, vol. 1st.

*Museum.*

King and Queen of White Ants, presented by W. STORM, Esq.

*Physical.*

The Secretary read the following correspondence which took place with Government regarding Major Hay's collection of Natural History Specimens.

*Copy of the letter addressed to Government, pursuant to the recommendation of the Committee of Papers.*

TO H. T. PRINSEP, Esq.

*Secretary to the Government of India, General Department.*

SIR,

'I am directed by the Asiatic Society to request that you will submit to his Honor the President the accompanying copies, 1st, of a letter from Major Hay, relative to his Museum of objects of Natural History; 2d, of a report by a Special Committee of the Asiatic Society appointed to examine that collection.

'In submitting these documents to the notice of his Honor in Council, the Asiatic Society direct me to add a statement of their views on the several subjects referred to by Major Hay and the Sub-Committee.

'In the opinion of the Asiatic Society, the collection imported by Major Hay is of the highest value, in a scientific point of view. It not only affords to the naturalists of India standard specimens for reference in pursuit of their numerous researches, but it possesses the still greater value of being available for the introduction of the systematic study of Natural History among the Natives of Bengal, a study impracticable without the aid of such a collection, and indispensable as a preliminary measure to the full investigation of the Zoology and Natural History of our Indian possessions.

'The duplicates contained in Major Hay's collection would, moreover, serve the twofold end of completing the Museum of the Court of Directors in London, and of procuring for India exchanges of valuable objects neither comprised in Major Hay's collection, nor indigenous in this country.

'The Society while thus fully aware of the valuable opportunity now afforded for the promotion of the study of Natural History in India, are not insensible to the difficulties which oppose themselves to the procural of Major Hay's Museum. The estimate of its pecuniary value, submitted by the proprietor, far exceeds the resources of the Society, or any subscriptions which might be collected among individuals anxious to promote the object in view.

'It seems possible still that were the Government to extend its patronage and pecuniary aid to the Museum, that the current efforts of the Society and of individual subscribers might lead to the accomplishment of some arrangement which would secure the acquisition of this Museum for Bengal.

'In the event of such measures being adopted, the Society will gladly apply their establishment to the custody of the Museum, and they pledge themselves at all times to facilitate the application thereof to the furtherance of the chief end of its acquisition, namely, the instruction of the Natives of Bengal in the several subjects, such collections are capable of illustrating. For this purpose the Museum might be held available for the illustration of lectures in Natural History, delivered at any Government Institution in Calcutta, such precautions being taken as would secure it from injury or loss.

'I am directed finally to refer to your letter of the 26th July, 1838, in which you state "that the Governor General of India in Council will be ready to receive from the Society recommendations for the purchase or other procurement of objects of more than common interest, of which the Society may receive information, and for the obtainment of which it may want the necessary funds."

'The Society most respectfully represent the present occasion as one eminently deserving of the patronage of the Government, in the spirit of the views expressed in the preceding extract.'

I have, &c.

'7th Jan. 1838.'

W. B. O'SHAUGHNESSY.

' To the Secretary of the Asiatic Society, &c. &c. Calcutta.

' SIR,

Agra, December 2nd, 1838.

" I beg to forward for the consideration of the President and members of the Asiatic Society some papers connected with a collection of natural curiosities lately accumulated by myself on a visit to the Cape of Good Hope, and Islands in the Eastern Archipelago.

' In the first instance, I will briefly state my views in forming it; and afterwards proceed, as far as I am able, to give details. Until the publication of Swainson's volumes on the Classification of Animals, and afterwards of the Quadrupeds and Birds, I never prosecuted the science with that ardour which these books enticed me to. His distinctions, however, appearing so beautifully clear, it occurred to me that a Museum classified from these books, upon one uniform principle, could not fail to prove interesting; and that such was much wanting in Calcutta, I had not a doubt. I was then at the Cape of Good Hope for the benefit of my health, and having much leisure time, I took the thing in hand. My first care was to get the specimens in the vicinity of the Cape, selecting chiefly those in illustration of *genera*. I then became acquainted with that unexceptionable, *practical* naturalist and taxidermist, Monsieur Verreaux, who had been extolled for his art by his master Cuvier; had been the personal friend of Levaillant; the intimate associate of Ruppell and Lesson; and well known to several other naturalists of note. In such a person how could I fail to be interested? Through this individual I procured the only duplicate skins existing of the large collection formed by that zealous naturalist, Dr. A. Smith, who had just returned from the scientific expedition into the interior of Africa, and whose work of African Zoology is only now in course of publication. My original purchase was limited to one hundred pounds, adding for this sum only twenty genera, and a few new species. Finding however my little stock, by the addition of new discoveries, increase in interest, I determined to endeavour to procure from South America those gorgeous specimens for which that country is so celebrated, to add to the beauty of the whole. With this view I made a list of the most interesting genera, and wrote to Rio Janeiro, where I knew Dr. Natterer, the German naturalist, had been collecting for the Emperor of Austria. From that country I procured many rare and interesting birds, and a vast collection of insects. Monsieur Verreaux hearing of the illness of his father in Paris, determined upon a hasty return to his own country, and wishing to go immediately, unincumbered, offered me the whole of his remaining specimens then at the Cape, mounted and in skin. I had now become the purchaser of animals, birds, &c. to the amount of fifteen hundred pounds. The remainder of my purchases at the Cape from different naturalists being about five hundred more. I shortly determined upon leaving the Cape and proceeding to Java, with the intention of returning to India via the Eastern Archipelago, for the purpose of adding largely to (what I shall now denominate) the *Museum*. On this tour I was obliged to content myself with skins, obtaining large numbers, and curing them myself. From the Buggeese I was fortunate enough to procure some rare and interesting specimens from the Moluccas and Borneo: in fact I left no part of the Eastern Archipelago untouched, and have now brought to Calcutta the whole of my labours.

' Here, however, my difficulties commence. Upon my arrival I find my circumstances changed, and that independent of the whole of my private means expended in the forming this Museum, when my accounts are closed, I shall have a balance against me of about twenty thousand rupees, to meet which I supposed I had resources, but sundry misfortunes have left me none.

' My return to Calcutta had been so arranged that I should have had three months remaining of unexpired leave to devote to the arrangement of all I had gathered together; instead of which I found myself hampered by the most unforeseen difficulties, with no immediate funds to defray the expenses. Obligated to hurry to the Upper Pro-

vinces to join my regiment, forming a portion of the army of the Indus, it now became a serious consideration what was to become of all I had with so much labour and anxiety amassed together.

‘With only ten days to remain in Calcutta, honor pointed out to me but one course, which was to expose the whole for inspection, and eventual sale in satisfaction of my creditors. This I have done, and the greater portion is now to be seen at the rooms of Moore, Hickey, and Co. Up to the time of my leaving, I had however found it impossible to unpack, and expose for view in a secure place, the valuable portion of skins; but, although I have no list of the whole, I beg to forward a list of those now exposed for sale, the remainder are in various boxes in the godowns of Moore, Hickey, and Co. and at my own agent’s, John Lowe and Co.

‘My great desire is, that if this Museum is sold, it should be disposed of to some Public Society, or to any number of persons who would allow it to remain as a Museum for public reference.

‘I have estimated the expense of the whole at thirty thousand rupees: but my sole wish is to realise a suffice to pay my debt, and with this view I offer it to the Asiatic Society.

‘My original intention was to have exhibited it, and have demanded one rupee for the entrance of each person to defray its expenses, after which I should have handed it over to one of the Public Societies gratis.

‘From the published proceedings of your Society, I glean that you are not in the habit of expending large sums of money on specimens, but nevertheless you might probably do me the honor at an early meeting of your Society to bring the matter forward; and a discussion on your part might bring it to the notice of Government, or it might assist me in disposing of what may be on my return from Cabul a mere wreck, from want of a little care.

‘I beg also to notice, that just one year ago I despatched from Cape Town into the Namaqua country an intelligent man, furnished with a waggon and oxen, and every necessary for the purpose of collecting. Up to the latest accounts he had not returned. The expense incurred in fitting out the expedition amounted to nearly four hundred pounds, and upon his return I am entitled, without paying any thing more, to the half of every thing, which I will add free of expense to any Society or parties who may purchase the whole Museum; and as the man deputed was formerly with Captain Alexander on his travels, and at the same time an experienced person in preparing skins, &c. it is probable that he will return with many of great interest and value.

‘I shall now proceed to forward catalogues of the specimens in Calcutta, forming the Museum.

‘I have the honor to be, Sir,

‘Your most obedient servant,

‘WILLIAM E. HAY.’

‘P.S. I have succeeded in getting lists of the mounted specimens printed, but not of the skins, which must be forwarded hereafter. I have added one sheet of the skins, but time will not admit of more.’

*Report of a Special Committee of the Asiatic Society on the Zoological Collection recently introduced to India by Major W. E. Hay.*

‘In estimating the value of this collection, your Committee beg to state that they must be guided by different considerations from those by which they would be influenced were the objects comprising it indigenous to India.

‘The collection has been made in Africa, South America, and the Straits composing the Molucca islands; many of the objects it contains are the result of Dr. A. Smith’s mission to the interior of South Africa, other parts of it were collected under the direction of M. Verreaux, and the rest by Major Hay himself, aided by M. Verreaux in



determining most of the species; so that the collection comprises many of the most remarkable forms from quarters of the world from which the Society have hitherto received no contributions, and with which persons residing in India could only become acquainted through the medium of books.

'The value of a collection that places it in our power here, to become acquainted with several hundred animals which otherwise we should only know by their published descriptions, must obviously be great; for so long as this country remains without such collections in every department of Natural History, so long must we be deficient in one of the first requisites for advancement in the higher branches of natural science.

'Major Hay's collection has yet another peculiar recommendation to us in this country, which elsewhere, perhaps, would be of less importance; namely, that most of its contents have been identified by Dr. Smith and M. Verreaux, so that the species it contains would be so many land-marks to which we could safely refer in the classification of the animals of this country—an object which still in a great measure remains to be accomplished.

'Such being our views of the importance of Major Hay's Zoological Collection, we are of opinion that the pecuniary estimate of its value, referred to in Major Hay's letter to the Society, is not over-rated; but we regret that in the present condition of the Society in regard to disposable funds, we cannot recommend so great an outlay.

'As, however, the safety of this valuable collection is an object worthy of our solicitude, we beg to recommend that the rooms of the Society be offered for its reception, that it might be at once safely and economically exhibited on the part of Major Hay, or those into whose hands it may have fallen.

'Were such an offer to be accepted, instead of being exposed to injury in a public sale room, without the necessary attention from persons accustomed to such a charge, the collection might be much augmented in value by the exchange of duplicates with the Society. In recommending this course, we are guided equally by all interests concerned, for while we form the very highest estimate of the value of the collection, in a scientific point of view, we cannot but regret to think that if it were put up for sale, it would barely realise the expenses which have been perhaps already incurred by its exhibition.

'D. M'LEOD,  
'W. CRACROFT,  
'J. M'CLELLAND,  
'GEO. EVANS.'

No. 72.

*The Officiating Secretary to the Asiatic Society.*

'*Genl. Dept.*

'SIR,—I am directed to acknowledge the receipt of your letter dated the 7th instant, forwarding copies of a letter from Major Hay, relative to his Museum of objects of Natural History, and of a report by a Special Committee of the Asiatic Society, appointed to examine that collection.

'2nd. In reply, I am directed to state, that the President in Council cannot regard a collection of prepared Birds, and other animals, as falling within the class of objects which the Government of India expressed its readiness to receive from the Society recommendations to purchase, or otherwise procure. Such preparations have always appeared to Government to be too perishable to be made objects of collection in a climate like that of Bengal, and fall within the exception referred to in the last paragraph of my letter, dated the 26th July, 1837. His Honor in Council cannot therefore entertain the proposition that the Government should purchase Major Hay's extensive collection of objects of Natural History, but would suggest that the specimens are better adapted for the Museums of Europe, where the climate is less destructive.

'I am, Sir, your obedient servant,

'H. T. PRINSEP,

'*Council Chamber, the 6th Jan. 1839.*

'*Secy. to the Govt. of India.*

Read a letter from Dr. LORD, dated Peshawar, 4th November 1838, forwarding two boxes of specimens of Natural History, collected by him while he was attached to Capt. BURNES'S mission.

Read a letter from J. G. MALCOLMSON, Esq. regarding M. AGASSIZ' opinions on the erratic blocks of the Jura, &c. &c.

Read a letter from Mr. PRICHARD to Mr. J. W. GRANT, on the microscopic examination of lignite from Sandway.

Notes on the dissection of the *Arctonix Collaris*, by Dr. GEO. EVANS.

A paper on Artificial Hatching in Egypt, by M. DEMAS.

Notes on a new genus of the *Fissirostres*, *Todidæ*, Vigors, by Mr. B. H. HODGSON.

On the conclusion of the business, the Officiating Secretary read the following report from Col. D. M'LEOD, Chief Engineer, on the best and most economical mode of extending the accommodation of the Society's House, with the view of having carried into effect any additions and improvements that may be determined on, simultaneously with the general repairs of the building, now become absolutely necessary for its preservation.

Col. D. M'LEOD, also forwarded two plans, No. 1 and 2, with his report, and an estimate from Messrs. SHERRIFF and Co., the builders, amounting to rupees 10,664-15.

*'To the Officiating Secretary to the Asiatic Society.'*

*'SIR,*—In compliance with the desire expressed at the last meeting of the Society, that I would examine and report on the best and most economical means of extending the accommodation of the Society's House, with the view of having carried into effect any additions and improvements that may be determined on, simultaneously with the general repairs of the building, now become absolutely necessary for its preservation, I beg leave to state to you, for communication to the next meeting of our Society, that I have repeatedly, and carefully examined the building in communication with Mr. ROWE, the builder, and with reference to the extent of additional accommodation which I am led to understand will soon be found desirable, if not indispensable, for the Society's rapidly increasing collections in all departments. I have the honor to report my opinion as follows:

*'2nd.* In addition to the ordinary repairs of cleaning up the interior and exterior of the building, and painting, it has been ascertained that the decayed state of the staircase roof is such as to demand its immediate removal, and renewal; and it is, I believe, generally agreed that a skylight in that apartment, or in the passage between it and the Hall is indispensable, as the effect of the valuable collection of pictures placed there is quite lost, from the absence of a proper or sufficient light. The roof of the staircase, however, being about three feet higher than that of the passage, the light from the former would in a great measure be intercepted by the architrave over the colonnade, and would consequently be so far defective. I would therefore recommend its being placed on the roof of the passage, in its centre, on a design (a drawing of which accompanies) now of general adoption in the Department of Public Works, and which I have always found to answer the purpose extremely well, and to continue water proof. The cost of such a skylight, measuring eight feet by six feet, as appears by Mr. ROWE's estimate, will only amount to Rs. 150.

*'3rd.* It was also I believe admitted, that a small staircase leading to the roof, such as is appended to almost every dwelling house here, is much needed, in lieu of the very inconvenient ladder, with trap door, now existing for that purpose; this deficiency I propose to supply in connection with the extension of the building, which I have now to suggest.

*'4th.* Two different modes of effecting this object have occurred to me, in both of which, however, is included the erection of a large room, in two floors of thirty-six feet by twenty-four feet, on either side of the staircase room to the east and west.

*'5th.* The first, as represented in both floors of plan No. 1, would leave the present

staircase (which is in substantial condition) precisely as it now stands, and the proposed new side rooms free and entire, with the exception of having the northern part of one side cut off for the purpose of adding a small back stairs, and a retiring closet attached thereto. The cost of this arrangement, including the sky light, exclusive of the removal of the decayed roof, and of other repairs, is shewn in Mr. ROWE's estimate No. 1, to be rupees 8485-10, and if interior new doors are not judged requisite to the new rooms in the upper floor, this estimate will be reduced to rupees 7861-10, as there exist old ones which may be applied to the lower floor.

'6th. The second, as represented in plan No. 2, would remove entirely the present double staircase, and introduce it as a handsome single one into the curtailed new side room. The very thick walls now existing in the basement on each side of the flight of stairs, as well as the colonnades over them, would in this case become quite unnecessary, and ought to be removed, so as to leave the whole of that apartment from wall to wall, in the line of east and west, free, and uninterrupted both above and below. The extra accommodation thus to be obtained, would be about equal with that of the first proposal, and the effect produced on the general appearance of the rooms, on entering from the new staircase, would certainly be more grand and imposing; but on proceeding to arrange all matters necessarily involved in carrying this measure into effect, I find, that as shewn in Mr. ROWE's estimate No. 2, it is unavoidably more expensive than the first by rupees 3178-3-6, and as the advantage is only in appearance, I fear it must, as matter of course, be rejected in favor of plan No. 1.

'7th. Should the latter also be found too expensive to be met by the available funds of the Society, the only alteration I have at present to propose, is to reduce the size of the new side rooms, so as that the walls shall be in a line with the other walls of the house—leaving them I believe about  $26 \times 18$  feet, which would of course diminish the charge considerably. But the Plan No. 1, if practicable, I would recommend, as it would be the means, I think, of preventing all future patching of the building—it provides at once two rooms of  $36 \times 21$  feet and two rooms of  $26 \times 24$  feet, with a suitable back stairs and closet in two floors, while it cannot be said to affect injuriously the light or the ventilation of the present apartments.

'8th. I would further beg leave to bring to the notice of the Meeting, that the dampness of the lower, or basement, floor is greatly complained of as a serious evil. I observe that this defect cannot conveniently be remedied by raising and new fluing, besides which that process would be attended with a heavy expenditure. I would therefore recommend that an expedient now successfully adopted, of laying the floor in a composition of tar and sand, (a specimen of which may be seen in the Society's House, executed I understand about two years ago by Mr. ROWE,) be resorted to in the lower apartments, to correct this evil. Its cost, as shewn, in Mr. ROWE's estimate No. 3 will be Rs. 1007.

'9th. It only remains to show in abstract the total expense in which the Society will be involved by the adoption of plan No. 1, for extending the accommodation, in addition to the requisite general repairs. The following is the abstract:

For the ordinary repairs, as per Mr. ROWE's estimate, ..	Rs.	854	8	0
For the new Roof to the Staircase, .. .. .	"	771	13	0
For new laying the floor of the Basement, ... ..	"	1007	0	0
For the proposed Skylight, .. .. .	"	150	0	0
For the proposed 4 additional Rooms and all connected with them, .. .. .	"	7861	10	0

Grand Total of Expenditure, " 10,644 15 0

'10th In conclusion, I have to observe in reference to Mr. ROWE's estimates, that the rates are very fair and moderate throughout.

'I have the honor to be, Sir,

'Your most obedient servant,

'Fort William, February 6, 1839.'

'D. M'LEOD.'

## No. 2.

' Estimate for building two additional Rooms, Back Stairs, and Closet; also removing the Staircase, &c. and fixing a new Staircase in the Western Room, as per Plan No. 2.

Building two Rooms, &c. as particularized in

Estimate No. 1.	..	..	..	..	..	8485	10	0
Alterations in the Staircase Room, 1 wall,								
53½ × 3 × 18½	..	..	..	2969½				
One Architrave, 53½ × 2 × 3	..	..	..	321				
Fixing Beams, 103½ × 1½ × 1½	..	..	..	232½				
Ditto ditto 2nd Story, 103½ × 1½ × 2½	..	..	..	388				
Roof and Floor, 53½ × 23 × 2	..	..	..	2461				
				6372 @ 13/8		860	3	6
Balustrade, 53½ × 1½ × 3½	..	..	..	300½ 13/8		40	8	0
8 Pillars, each 20 feet,	..	..	..	2/		320	0	0
Inside Cornice, 153 feet,	..	..	..	/8		76	8	0
Outside ditto, 54 ditto,	..	..	..	1/		54	0	0
WOOD WORK.								
34 Beams, each 28 feet, 14 × 8 @ 1/8	..	..	..			1428	0	0
60 feet Architrave,.... 18 × 10 @ 1/	..	..	..			120	0	0
2500 feet Rafter..... 3 × 2 @ /6	..	..	..			150	0	0
Principal Staircase, including landing to be fixed in the New Western Room,	..	..	..			900	0	0
						3949	3	6
						Co's. Rs.	12,434	13 6
Deduct the renewal of the decayed Roof,	..	..	..			771	0	4
						11,661	13	6

N. B. The above includes changing the old roof of Staircase Room.

Resolved,—That the Society approve of Col. M'LEOD's Plan No. 1, and sanction the sum estimated for the construction of four additional rooms, and repairs of the premises, and that the Secretary be requested to communicate the resolution of the meeting to the Builders, with orders to commence the work, with as little delay as possible.

*Meteorological Register, kept at the Assay Office, for the Month of February, 1839.*

Day of the Month.	Forenoon, 10 A. M.										Afternoon, 4 P. M.									
	Atmospheric Pressure.					Temperature.					Hygrometry.					Aqueous tension.				
	Old Stand Barometer.	Height at 32 Fath.	Wet water.	Air.	Dew point.	Differential thermometer.	Hygrometer.	By Wet bulb.	By Hair Hygrometer.	By Dewpoint.	By Wet bulb.	By Hair Hygrometer.	Differential thermometer.	Depression.	Height at 32 Fath.	Barometer.	Old Stand Barometer.	Aspect of Sky.	Wind.	Weather.
1	30,040	887	71.2	74.8	74.3	5.7	60	92	82	71	62	80	91	77	901	920	920	hazy, cir. str.	1	cldy. haze.
2	30,060	885	72.3	75.0	75.0	7.7	70	91	80	62	80	80	91	4.5	929	929	929	do.	0	do.
3	30,030	886	72.0	74.7	74.0	7.0	81	90	80	65	78	80	91	9.0	946	946	946	haze	0	haze
4	30,032	887	71.9	74.6	73.8	6.1	5.8	91	80	70	80	80	91	11.6	965	965	965	do.	0	cldy. haze.
5	30,088	886	74.9	77.7	77.7	3.4	3.7	98	82	82	95	82	98	0.4	883	883	883	do.	0	do.
6	30,068	888	73.4	76.2	76.7	5.4	6.0	92	74	82	86	74	86	6.2	927	927	927	drizzle.	0	drizzle.
7	30,020	882	73.2	76.0	75.0	5.2	9.1	94	65	75	86	65	78	6.6	942	942	942	cir. cum. & st.	0	cir. cum. & st.
8	30,077	883	73.2	75.9	75.0	6.7	9.1	90	52	59	52	59	90	10.9	920	920	920	cldy. cir. cum.	0	cldy. cir. cum.
9	30,048	884	73.2	75.9	75.0	6.7	9.1	90	52	59	52	59	90	12.6	927	927	927	clear.	0	clear.
10	30,008	882	76.4	76.0	75.7	4.6	5.1	94	77	87	77	87	94	8.2	755	755	755	cldy. cum.	0	cldy. cum.
11	30,044	883	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	9.1	694	694	694	Fine.	0	Fine.
12	30,086	881	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	cldy. cir. str.	0	cldy. cir. str.
13	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	clear.	0	clear.
14	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
15	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
16	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
17	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
18	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
19	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
20	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
21	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
22	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
23	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
24	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
25	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
26	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
27	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
28	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
29	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
30	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
31	30,052	882	71.4	76.7	75.3	5.5	5.9	94	75	87	75	87	94	13.7	683	683	683	do.	0	do.
Mean.	29,952	29,929	75.7	76.2	76.0	8.2	8.7	86	62	71	62	71	86	12.5	29,842	29,843	29,843	Between cl. & cldy. at inter.	14	indications.

# JOURNAL

OF

## THE ASIATIC SOCIETY.

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No. 87.—MARCH, 1839.

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ART. I.—*Notice of an Inscription on a Slab discovered in February, 1838, by Capt. T. S. BURT, Bengal Engineers, in Bundelkhand, near Chhatarpur.*—By the Editors.

Captain BURT will have imputed, to the right causes, (Mr. PRINSEP'S illness, and absence) the delay, with which we notice the impression of the above inscription, so obligingly forwarded by him. This communication, has added to the obligations which antiquarian science owes to him. The legend of the inscription is now presented to our readers with a translation—a relevant extract from Captain BURT'S *Journal*\*—some explanatory notes,—and a prosodial key to the inscribed verses, or rather Poem. A facsimile of the inscription is not added, because the character resembles the specimen published in our number for April, 1837; and Captain BURT describes it as No. 3, *Allahabad* pillar.

This slab, it will be seen, was found detached at one of several temples at *Khajrao*, nine coss from *Chhatarpur*, which is on the high road connecting *Saugar* and *Hamirpur*. *Khajrao* is described by Captain BURT as near *Rajgarhy*, which we assume to be the *Rajgarh* of the maps—a fortified town on the right bank of the *Cane* river S. E. from *Chhatarpur*. The place abounds with remains of temples, statuary, and monuments of ancient times. The slab was found in the temple dedicated to “*LALAJEE*.” This name, (unknown to the Sanscrit theogonies) is probably the appellation locally current of some divinity whose *alias* we cannot conjecture. It may however be assumed, that

\* Captain BURT'S letter covering the inscription has been mislaid. We hope we have not taken a liberty in making an extract from a *Journal* of his Travels, in the hands of Thacker & Co, for the press.—EDS.

the slab does not belong to this edifice ; and that that, celebrated in the polished verses now presented, has yielded to the mouldering hand of time. We may also assume, that its site, was the consecrated spot, described by Captain BURT, and that it gives us the genealogy of Rajas who formerly ruled in that part of the country.

We learn that Raja BANGA erected a lofty temple for the reception of an emerald emblem of ŚRĪA, and a stone image of the god. On the death of this Raja, seemingly by voluntary immersion in the confluence of the *Yamuna* and *Ganga*, his territory was administered by the priest YASONHARA,—perhaps, during the minority of his heir JAYA VARMA DEVA. The original inscription, of sixty stanzas, was engraved and put up in 1019 *Sambat*, or 962 A. D.—that is about 877 years ago. From the two last, or supplementary, stanzas we learn, that it was engraved by order of Raja JAYA VARMA DEVA in “irregular” letters. He afterwards had it re-engraved in clear character : then because effaced, he again, at the distance of fifty-four years, had the poem re-engraved in the *Kakuda* character on the slab, from which Captain BURT has taken a faithful impression. It bears the date Friday, *Vaisakh* 3d, *Sudi Sambat* 1173, A. D. 1016. The poet was ŚRĪ RAM, who has not failed to give his own genealogy, and the caligraphist was “that GAUD’A’ KAYASTHA.”

The pious BANGA appears to have been of the Lunar race. The pedigree given by the slab is this

NANNUKA

|

VAG-YATI

|

VIJAYA

|

VIHALA

|

ŚRĪHARSA, + KUNKATI his wife of the Gangetic race.

|

YASO-DHARMA DEVA + NARMA DEVA his wife.

|

BANGA.

BANGA appears to have been succeeded by JAYA VARMA DEVA, who may have been his son.

In the 12th vol. of the Asiatic Researches there is copy of an imperfect inscription taken from a slab translated by Capt. PRICE, who found it near *Mow*, a town ten miles from *Chhatarpur*. A place of that

name, in a North Westerly direction, appears on the map near the left bank of the Dassaun river. The name of JAYA VARMA DEVA is in the royal genealogy recorded on this slab; of which the date is effaced. This genealogy has also its VIJAYA; but it cannot be identified with that of BANGA. It appears however that when ANANTA, the Brahmin minister of his father and grandfather, drowned himself in the *Yamuna*, some other (probably a Brahmin) was appointed to the administration by JAYA VARMA,—because, as Capt. PRICE infers from words used in the inscription, he had abandoned worldly concerns.

In the *Khajrao* slab it is not stated that JAYA VARMA DEVA was the son of BANGA, but we learn that the priest YASONDHARA administered after the pious suicide of BANGA.\* These circumstances afford some grounds, though weak, to identify the JAYA VARMA DEVA of both slabs. In case of identity, we may suppose that the two genealogies exhibit distinct branches of one family, and that JAYA VARMA DEVA succeeded collaterally. No doubt local inquiry would fling light on the history of the Kings or Chieftains here recorded.

The poet elevates BANGA into a great monarch and conqueror. Kings of *Oude* and even *Ceylon* attend to do him homage, and his captives are the wives of the kings of *Andra*, *Radha*, and *Anga*. All this of course is the exaggeration and fancy of the poet. But the 19th stanza seems however to indicate the actual conquest by VIJAYA of southern territory.

BANGA's piety was not limited to the erection of the shrine. He also built mansions for seven Brahmins who officiated at the temple, which he endowed with lands. "Two *yavas* at *Sri Brahma kalpa*; one in the vicinity. *Kalpa gram*, on the south of the snowy mountains, was another." This obscure *sloka* introduces a new land measure. The *yava*, or barley corn, is the lowest linear measure,—and suits, neither royal munificence, nor priestly expectation. We have *Kalpi* on the right bank of the *Yamuna*; but unless to fill up the verse it would hardly be described as south of the snowy mountains. Is any *Sri Brahma kalpa* known in the vicinity?

We should be much gratified if this, and other points connected with this inscription receive the attention of Captain BURT, or any other intelligent correspondent who may have the opportunity of local inquiry. We will not dismiss the temple, without noticing ΧΙΤΩΝΑ "the carpenter," the Christopher Wren who built the "cloud-capt" fabric. No Indian name approaching to this is now known. Was he foreigner?

\* In the 9th verse of the *Mow* slab the name of JAYA VARMA's father is incomplete. But BANGA would not suit the metre, and would make an incongruous compound.



Of the character of the Poem a few words remain to be said. It is composed in an ambitious style by an accomplished scholar. His verses are polished and elaborate ; some however are obscure, and the quaint pedantry of *Sanscrit* Poetry here abounds. But in spite of these defects, many of the verses may be justly commended as containing much of truly poetical imagery, conveyed in lofty and polished diction. But we must leave space for Captain BURT's narrative.

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*Extract from the Journal.*

I reached Chatterpore at 9 o'clock at night, (which was an earlier hour than I had stipulated for by twelve or thirteen hours), but my reason for pushing on was in order to have time to pay a visit to Khajrao, a place situated about nine pukka (full) koss (eighteen English miles) from Chatterpore, to the right of my road, and lying not far from Rajpore, or Ragurhy, or I think it is more correctly called Rajnuggur. The natives at a distance sometimes call Chatterpore Chatpore. It was whilst I was on my return trip from Eraw to Saugor that I heard, from a palky bearer, of the wonders of this place—Khajrao, near Chatpore, as he called it ; and which he stated to be situated from Saugor seven *munzils*, or daily stages, for native pedestrians, which, at fifteen miles per day, is about the thing, Chatterpore being distant from Herrapore fifty miles, or one hundred from Saugor. I may as well now employ my twelve or thirteen hours spare time in taking a look at Khajrao along with the reader.

Immediately on my arrival at Chatterpore, at 9 o'clock at night, I told the *dawk moonshee*, (baboo, or writer) to procure a double set of sixteen bearers, and two spare men for a *bangie*, containing my food and printing materials, to start as soon as possible for Khajrao. I wished to arrive there before sunrise in the morning, and it lay at a distance of eighteen or twenty miles thence by an indifferent road. I left a pair of trunks and a pair of patarahts (tin boxes) under the care of the baboo, as I should not require them until my return, and in about an hour started for Khajrao, viâ Rajnuggur, and reached the temples of the former at seven or eight o'clock in the morning. The ruins which I went to see lie at some distance from the village, which lies beyond them, and this place I did not see, as a quantity of jungle intercepts the view of it. I was much delighted at the venerable, and picturesque appearance these several old temples presented, as I got within view of them. They reared their sun-burnt tops above the huge trees by which they are surrounded, with all the pride of supe-

rior height and age. But the chances are, the trees (or jungle rather) will eventually have the best of it. My first inquiry, after taking breakfast, was for ancient inscriptions, and a temple close by was immediately pointed out as the possessor of one. I went there, and sure enough there was an inscription in the No. 3 Sanscrit character of the Allahabad pillar, in the most perfect and beautiful state of preservation, engraved on a stone slab which measured about five feet by four, and was completely covered on the upper side with writing; the stone was laying at a slope against a step in the side wall of the temple. It was the largest, the finest, and the most legible inscription of any I had yet met with, and it was with absolute delight that I set to work to transfer its contents to paper. I took two copies, one on a plain white paper, without ink, by pressing it in a wet state with towels into the hollows formed by the letters, and another reversed with ink, which I spread upon the stone. The facsimile, or impression, obtained was the most beautiful specimen I have by me, and I regretted that the surface of the stone twenty square feet, was too large for me to spare time to make a duplicate with ink. The date of it is 1123,\* Sunbat, or 771 years ago, as was distinctly pointed out in the lowermost line of the inscription; having done this I took a look around,—“*Si monumentum quæris, circumspice*,”—and could not help expressing a feeling of wonder at these splendid monuments of antiquity having been erected by a people who have continued to live in such a state of barbarous ignorance. It is a proof that some of these men must then have been of a more superior caste of human beings than the rest.

Khajrao is situated one koss distant from Rajnuggur, the Rajah of which sent to express a hope I would pay him a visit on my return: and as I was in his dominions, I thought it was as well to do so in the evening. I found in the ruins of Khajrao seven large *Divallas*, or Hindoo temples, most beautifully and exquisitely carved as to workmanship, but the sculptor had at times allowed his subject to grow rather warmer than there was any absolute necessity for his doing; indeed, some of the sculptures here were extremely indecent and offensive; which I was at first much surprised to find in temples that are professed to be erected for good purposes, and on account of religion. But the religion of the ancient Hindoos could not have been very chaste if it induced people under the cloak of religion, to design the most disgraceful representations to desecrate their ecclesiastical erections. The palky bearers, however, appeared to take great delight at the sight of those to them very agreeable novelties, which they took good care to point out to all present. I was much struck with the beauty of the

\* The impression gives 1173 *Sambat*.

inner roofs of the temples, which were circular, and carved in a most elaborate style.

I told one of the bearers to try and find out whether there were any passage or steps leading to the roof inside or outside the building : as if there were, I intended to pay a visit to it. After searching about for some time, he reported that there was a way ; so I went to look at it, and found that the only means which presented itself of access to the upper story, existed on the inside, and from one of the side passages (dark as Erebus), and that it was requisite to ascend by climbing up the sacred images.

From the side wall, which was perpendicular, I first sent up one of the bearers, and then by laying hold of the leg of one god, and the arm of another, the head of a third, and so on, I was luckily enabled, not however without inconvenience, to attain the top of the wall ; where, on the roof, I found an aperture, just large enough for me to creep in at. On entering upon the roof, I found that my sole predecessors there for several years before had been evidently the bat and the monkey, and the place was not for that reason the most odoriferous of all places in the world. However, it was necessary that I should see and inspect the nature and formation of these upper stories. The circular roofs, before referred to, were formed by the overlapping of huge long blocks of stone, which stretched from the capital of one pillar to that of another, and upon both of which they are supported. The others are placed so as to fill up the corners of the square (or other angular figure of which the plan of the roof was formed) by other huge long blocks laid across these interstices diagonally, from the centre of one face to centre of another. The same occurred above them, smaller blocks being used as the circle contracted, and as the roof tended towards a point. Here a square stone was laid on, resting upon the superincumbent ones. There was no masonry, I mean no plaster of any kind, used for the purpose of cementing these slabs to one another, their own weight and position alone being sufficient to give them permanence—a permanence which has lasted for ages, and which would, unless disturbed by the growing of trees or other disturbing cause, sempiternally exist. I saw nothing else worthy of notice, only here and there, immense parallelipedons of stone, in some of which, the presence of holes apparently drilled for the intrusion of the lever for raising them was indicated. There appeared to be no way of returning excepting that by which I had effected my ascent, so I set about my descent as well as I could, for this was more difficult than the ascent ; but after resting first one foot, then another, upon any projection I could meet with, I managed to effect, without loss of limb my perilous descent. I

noticed a vast quantity of beautiful sculptures of all kinds, to attempt to describe which would exceed the limits of this work, even if I possessed the means of doing so ; but as I do not, and have made no sketches there, I must *per force* be excused from inserting any. Having visited several temples, in all seven, of which the names are as follow, I went to take a look at the rest of the wonders of the place. One temple was dedicated to *Mahadeo* ; a second to *Parvatti* ; a third to *Kundari* ; a fourth to *Lalaji* ;<sup>(1)</sup> in which I found the large inscription ; a fifth to *Nandoo*, or the *Mahadeo bullock god* ; opposite to which and facing it, in an outer building, contemporaneously erected, is a splendid figure of the largest *bail*, (or ox) I have ever seen ; the animal was sitting upright upon the ground, and in this state measures seven feet long, five feet high, and three and quarter feet broad, and weighs by my old way of calculating 68½ tons, or 1872½ maunds. I had not sufficient time to make a drawing of him, being obliged to notice more interesting matters. The sixth temple is consecrated (may I use this term ?) to *Chatterbhaj* ; and the seventh (what think ye of that reader) to our fourth friend of the Hog species—to *Barao*,<sup>(2)</sup> and in which there is, without exception, the finest, (and last) but not largest, specimen of this animal I have as yet seen ; and I don't think there are many others in India, excepting one of which I know the locality, but have not visited it. The dimensions of this interesting object are as follow—His height is five and three quarter feet, his length eight feet, breadth three and quarter feet ; all these dimensions are approximations, made by means of my walking stick, which measures rather more than a yard in length : so that each of them may be perhaps increased by about one inch ; his weight will be, according to our method, ninety tons, or about 2461 maunds. This is pretty well for the weight of the gentleman just after breakfast. What the deuce would it be after luncheon ? I am happy to say we have in this specimen unequivocal proof of the presence of a complete and well formed snake which is lying under him,<sup>(3)</sup> partly in an incurvated position, but evidently subdued ; the female figure, that should be here has been taken away (confound the rascally despoilers), and nothing remaining of her beautiful form (for I am sure it must have been beautiful, judging from the rest) but two feet, and her hand, which is posited upon the left throat or neck of the

1. Divinities by the name of KUNDARI and LALAJI are not found in the Sanscrit theogonies, they may be familiar designations locally current.

2. The *Vardha Avatar* of VISHNU is well known.

3. The snake ANANTA or SESA, which upholds the earth. The child is the infant HARI described as reposing on this snake.

animal. One additional circumstance occurs too in this specimen, which is the remains of a child resting upon the snake's neck. I should conceive that this figure of a child is meant to represent the child of *Prithei*, viz. mankind, born of earth (or *Prithec*), and of whom the fable represents *Hiran*, the snake, to have been the enemy or destroyer, but who has here triumphed, and is resting upon the serpent's neck—"Thou shalt bruise his head, and he shall bruise thy heel." Another very extraordinary fact is, that the tail of the *Barao*, though broken off, (as indeed is that of each of the other specimens) must evidently have joined on to the tail of the reptile; this would seem to convey the idea that the tail was either part of the enemy, or the enemy itself; but this discussion I must leave to the learned, being unable to grapple with it myself. The tusks of the Hog are curved in the finest and most determined manner. I do not recollect in what direction the woman's feet are turned in this specimen, whether towards the animal, or sideways from him. I would willingly have given a hundred rupees (10*L.*) to have had a good sight of the "*Prithec*" creature, (who has been taken away,) and that in a mutilated state too, as they have left her feet and one arm. The *Barao* stands on a fine thick slab raised on a high chabutra, which is accessible by steps formed of red granite, (mind that). The roof is well formed, strong, and likely to last for ages; as is also the Hog. I think he was covered with parallel rows of human figures, like unto the others, but upon this fact I beg to say I do not feel justified in speaking decidedly.

Let us now look in at the little *Mahadeo*, or *lingam*, which is to be seen in another temple, situated not far from this one. In order to arrive at it, it is necessary to ascend a considerable number of steps, at the top of which is situated the representation of the vital principle. Let us now measure the height of the gentleman. The natives objected to my going inside, without taking off my boots, which would have been inconvenient; so standing at the door way, I saw a bearer measure the height with my walking stick, it amounted to  $2\frac{2}{3}$  of its height, or eight feet, and its diameter about  $1\frac{1}{3}$ , or four feet. Its weight will be about  $7\frac{1}{2}$  tons, or 207 maunds. It was erected in a receptacle, which was raised from the ground about four feet, and twenty-five feet in diameter. That of the room exceeded it by perhaps three or four feet on each side,—there being a passage all round it. I understand a light is regularly kept burning there during the night time, and it was considered by far the largest lingam in India, and is consequently much venerated. The dimensions of the stone slab from which I copied the inscriptions in the other temple, were  $5\frac{1}{2}$  feet length, 3 feet breadth, and  $\frac{1}{2}$  foot thickness—its weight is therefore about

12½ hundred weight, or 17 maunds. This stone lies detached from some part of the building (from whence I cannot say) and rests inside one of the temples before mentioned. I must return to state a peculiarity I met with in this *Barao*. His two left legs were both placed foremost; perhaps this was intended to add to his strength or durability, by giving him what they might have considered greater base; but I should doubt whether the base would not have diminished instead of increased by this arrangement. In the other specimens, I think the legs of none were advanced, but as if the animal were standing still. A large tank exists within fifty yards of this Hog, but there was not much water in it at the time I was there. A great deal of jungle surrounds these ruins. Near the water entrance to one temple I found a lion or two (stone ones, not living animals); one of whom seemed to be seizing a wrestler by the left arm, with one paw up and mouth open ready to destroy him. Was this *Narsing*, again, and *Heran kussup*?<sup>(4)</sup> I had a desperate hunt here (not after a hare) but after my pencil, with which I intended to have "knocked off" the last named figure, but I was obliged to "knock off," altogether (as the sailors say) or leave work, because I could not find it. After sending two or three men to two or three places to hunt for it, I was obliged to depart without making the intended drawing, and after I had progressed about a mile from the place, when it was too late to return, lo, and behold, I found the pencil upon my palanquin drawer. I soon after got to Rajnuggur, but before finally taking leave of the seven temples, I shall state my opinion, that they are most probably the finest aggregate number of temples congregated in one place to be met with in all India, and all are within a stone's throw of one another.

श्रीनमः शिवाय ॥

विधुष विकट वटानामजायमानाय वीजभूताय ।

मुदान्तर्नमः पालनविलयवृत्ते निष्क्रियायापि ॥१॥

तूर्णं घूर्णति यच्च गोत्रशिखरिष्टङ्गः समूहस्रसन्

प्राच्यौषीघ्नतमूर्तिरार्त्तविरतं कुर्वन् कुकुङ्कुम्भिना ।

सप्तांभोध्यवधि प्रधूतवसुधावन्धःकवन्धीकृतः

स्ताम्भाद्रिः क्षयकाण्डताण्डवविधिः शैवः शिवायास्तुवः ॥२॥

4. HIRANYA KASIPU, Gold-clad, or *Daitya* or *Titan*; for whose destruction VISHNU took the form of the man-lion.

कस्त्वं द्वारि दिगम्बरः कृपणकः कस्मादकस्मादहो  
 वार्मे शूलधरो धिगायुधविधिं वर्द्धास्त्वद्वर्द्धाननु ।  
 मां जानीहि महेश्वरं स्फुटमिदं वक्ष्येभ्यभावे स्थितिः  
 प्रेयस्याः परिहासतो विहसितः शम्भुः शिवायास्तुवः ॥३॥

पशुपतिवदनकृष्णनि कृतवसतिः पद्मसङ्गनि सदा या ।  
 जयति विलक्षणरूपा मुक्ताभा भारती चैयं ॥४॥

गिरिशशिरसि यच्छन् हस्तमिन्दोः कलायां  
 मृदुकमलमृणालायां शृङ्गुः शिशुत्वे ।  
 जयतिविधुतमूर्द्धोन्नाल नीलाम्बुजेन  
 स्मितकुपितमृडानीताडितो नागवत्सः ॥५॥

कल्पादौ किल केवलं खमखिलं ध्वान्तावनङ्गं ध्रुवं  
 शून्यं वीक्ष्य सिसृक्षतो जगदभूदङ्गादमुद्रोनिनः ।  
 तत्राभूदनलोनलाज्जलमभूद्वीजादमोघाज्जला  
 ज्ज्वालामालि हिरण्मयं महदभूदण्डं विभोर्ब्रह्मणः ॥६॥

तदण्डभाण्डखण्डाभ्यां सप्तैवं विदधे धिया ।  
 ब्रह्मा ब्रह्मनिधीन् पुत्रान् मरीचिप्रमुखान् मुनीन् ॥७॥

मध्ये तेषां प्रहृततमसां मानसानां मुनीनां  
 श्रीमानग्निः प्रथितमहिमा नेत्रपात्रैः प्रसूतं ॥  
 यस्य उद्योतिः पटलजटिलं मण्डलं बद्धमिन्दो  
 श्चान्द्राचैयः समजनि मुनिस्तस्य पुत्रः पवित्रः ॥८॥

द्वरापास्तसमस्तसंशयविपर्ययासप्रकामो ज्ज्वाल  
 क्रान्तालोकविलोकिताखिलजगत् स्वर्गापवर्गस्थितेः ।  
 सर्वज्ञप्रतिमस्य तस्य कृतिनः कान्तस्य पुण्यात्मनः  
 पारंगन्तुमतस्तदीयमहसः कोवा महिम्नां जयः ॥९॥

नीरन्ध्रो नितरां निसर्गसरलः सारोत्तमोभ्युन्नतो  
 निर्धन्यः प्रथुलाग्रभागश्रुभगः पर्वस्वखर्वस्थितिः ।  
 आमूलं फलितोद्य सेवितविपत्कूरारिदावाग्निना  
 न ज्ञानिं गमितस्ततः समभवद्वाट्पर्यमात्यङ्गतः ॥१०॥

आचन्द्रं चन्द्राचेयवंशजाः क्षितिभुजः क्षितिमाद्योतते ॥११॥

ये पूर्वे नृपविष्ठितक्षितितल्लः संक्रान्तधर्मप्रियाः  
 प्राणप्रार्थनयाप्यखिन्नमनसः पर्याप्तसत्यव्रताः ।  
 निःसिन्दूरितदुर्विनोत बलवत् सामन्तसीमन्तिनी  
 सीमन्ताः पृथिवीभुजो विजयिनस्तेभ्योखिलेभ्यो नमः ॥१२॥

कालेनेह महारवंशे प्रशंसामांशुरंशुमान् ।  
 मुक्तामणिरिव श्रीमाक्षसुकोभूम्महीपतिः ॥१३॥

तेन विक्रमवलेन धन्विना क्रामता युधिवधाय विद्विषाम् ।  
 धुन्वता धनुरधिष्ठयमर्जुनं स्मारितादिवि विमानगामिनः ॥१४॥

तस्मादुदारकीर्तिरजनि जनानन्दसुन्दरः श्रीमान् ।  
 तनयो विनयविधाने वाक्पतिरिव वाग्यतिक्षितिपः ॥१५॥

विद्यावदातसद्देनृ कविप्रजानामातङ्गशङ्कुमकलङ्कितविक्रमेश ।  
 तेनापनीय श्रयनिर्मललोचनेन सङ्कोचिताः पृथुककुन्दुकथार्थ  
 कण्थाः ॥१६॥

तस्य क्षमातिलकस्य लोकतिलकः पृथिवीपतेर्भूपतिः  
 स श्रीमान् विजयो जयाय कुशली जज्ञे हतश्चः सुतः ।  
 यस्योदात्तमतेः प्रसूतिसमये धम्म्या महिम्नां निधेः  
 सानन्दं सुरसुन्दरीभिरवनौ क्षिप्ताः सलाजाः स्रजः ॥१७॥



किन्नरीभिरधिकं धरासखीराकलव्य विजयस्य भूभुजः ।

काकलीकलमगीयत स्फुरत् मोक्षमुल्लुलकमुज्ज्वलं यज्ञः ॥१८॥

विनयनतसुमित्रापत्यसम्वाहिताहिः

प्रवरहरितभूमिः क्रान्तपर्यन्तभूमिः ।

सुहृदुपहतिदक्षो दक्षिणाशां जिगीषुः

पुनरवितथयोधे धन्वते <sup>(5)</sup> तूर्यमर्यः ॥१९॥

तस्मान्नृपतिसमुद्रादुदपादि नरेन्द्रचन्द्रमाः ।

स्पृहणीयः श्रीवाहिलनामा विहृततमा वन्दिवाग्ध्युदयः ॥२०॥

प्रसन्ने तत्र भूपाले प्रसरच्चित्रभानवः ।

प्राभवन्नमितावासाः सरोषे द्विषदालयाः ॥२१॥

कोशपानमसिधारयोषितं प्रान्वभून्न जनरत्नसम्पदां ।

पक्षपातमिषुषु स्वभूपुरे प्रापुरस्थ न सुहृत् सभासदः ॥२२॥

तस्मात्तीव्रप्रतापोज्ज्वलनकवलितोत्तानभूपालतूलात्

संप्रच्छीतद्रुमाणमनणुगुणगणालङ्कृतेः कीर्त्तिर्हर्तुः ।

सश्रीहर्षैरिहर्वज्वरहरणमणिः क्षीणनिःशेषदोषः

सन्तोषाय प्रजानामजनि निजभुजाक्रान्तविभ्रान्तकीर्त्तिः ॥२३॥

यं दृष्ट्वैव ह्यपाणपाणिमहतन्यापातभावं युधे

क्रोधाक्रान्तविलोचनोत्पलदंलभूभङ्गसीमाननं ।

उत्साहोद्दयार्दतः <sup>(6)</sup> करतलाद्वाधोमुखाः कीर्त्तयो

दिग्भ्यः साध्वसवेपमानवपुषस्तस्थुः परेषां क्रमात् ॥२४॥

तेनाच्युतेन भीमेन बाणेन हृतवर्मणा ।

समुद्रपरिखा पृथ्वी पुरी शूरेण रक्षिता ॥२५॥

5. *Sic in Orig.* : but it seems an error of the engraver.

6. *Sic in Orig.* There appears an error of the engraver, the words *utsāhodayārdra-*  
*tah* give no intelligible sense, and are omitted in the translation.

अपक्षधर्म्मारिविचक्षणक्रमः सदैव होषाकरसङ्गमहुरः ।  
विनिष्कृतकूरभुजङ्गमङ्गुरस्तिरस्कारोति स्स सतूर्णमर्षव ॥२६॥

हस्तापास्तप्रवरतुरगैर्दूरमुक्तासपत्नैः

दूरारातेः सपदि शिरसा शासनं धारयद्भिः ।

तस्य द्वारि द्विरदमदनिःस्यन्दपक्षाङ्गितायां

सेवाहेतोः प्रणतिपरमैराश्रितं भूमिपालैः ॥२७॥

चन्द्रोज्ज्वलगुणा वर्चोमहार्घा हृदयङ्गमा ।

हारावलीव तस्यासीत् कंकुतेति प्रियोत्तरा ॥२८॥

वर्णः स्वर्णरुचिर्विलोचनयुगं नीलं सचन्द्रोत्पलं

पाणिः श्रोणमणिर्द्युतिः सचरणा दन्तच्छदोविद्रुमः ।

सद्यःशुक्तिविमुक्तमौक्तिकतलं सच्छन्तु चेतोयतः

खीरलं भुवनैकभूषणमभूत् तत्सङ्गमे कामिनी ॥२९॥

तस्यास्तस्य स्मरणविहिताघौघविध्वंसनायाः

सत्तीर्थायास्त्रिदशसरितः सन्ततेः पुण्यकीर्तेः ।

धर्म्माधारः पितरि सुतरां साधुरिद्वप्रभावो

भीष्मोपेन्द्रभ्रमहृतिस्ततः श्रीयशोधर्म्मदेवः ॥३०॥

तस्य विप्रचरणप्रणामजं रञ्जितं शिरसि सुश्रितं रजः ।

अप्यकालपलिताकृतिं दधत् सन्धधावधिककामनीयकं ॥३१॥

एकस्मै याचमानाय द्विजाय पलदः शिविः ।

यावदर्थिजनं प्रादात् कोटिकोटिमसौनृपः ॥३२॥

रत्नं भूमिलितालिकेन सदसि न्यस्तं सचेतायितं

गन्तुं पञ्चपुरःसरेण चरणैः स्थानं प्रभाविस्मितं ।

वक्तुं जीवजयादिशो नतिचयं कर्तुं विनीताकृतिं

स्तस्मिन्वाजनि राजकेन जयिनि आसादिदं लक्षितं ॥३३॥

नित्योदितेन्दुभुजगाधिपधाम नित्य

मानन्दिकुन्दकुसुमं गगनाङ्गणं वा ।

तेनाद्य तद्दयमिदं यज्ञसाम्यधायि

संस्थापितं सितसुधाधवलं चैरिचं ॥३४॥

सप्तसप्तिमहिमतुल्यः सप्ताकूपारपारदृश्वपि ।

न पुनरिहृतस्य नृपतेर्गुणसागरपारगः कश्चित् ॥३५॥

गांधारीं भजता प्रहृष्टशकुनिस्वानम्रियां प्रेयसीं

भीष्मद्रोणनरास्यकर्णमुखदोऽप्याकर्ण्य संमूर्छिता ।

तद्गर्भप्रभावबोधितवता प्राण्यापि वंशक्षयं

नप्राप्ता धृतराष्ट्रता समुदयोविद्वेविणेत्युक्तं ॥३६॥

कस्मात् षष्टिसहस्रस्ररिभिरस्रन् व्युत्सृज्य खातः हत

स्तत्पौत्रप्रमुखैः पुनन्निभिरासवम्भोभिरापूरितः ।

वृत्तान्तं सगरस्य सागरविधावाकर्ण्यतूर्णमुधा

स्पर्धावानधिकं व्यधत्त जलधेर्वैल्लज्जडागार्णवं ॥३७॥

वेश्मेदं शारदेन्दु द्युतिसुरभिखुरक्षुण्णभग्नान्नपादं

पृक्तंचक्षुष्यमुष्मादपथयति रथं सारथिः सप्तसप्तेः ।

यत्कुम्भः श्रातकुम्भस्तुहिनगिरिशिरश्चुंविबिम्बार्कतर्कं

कुर्वन्नास्ते समस्तां मुदमसुररिपोर्वेश्मवैकुण्ठमूर्तेः ॥३८॥

भट्टावंशसमुत्पन्ना प्रसन्नावनितावनौ ।

नर्मदेवामवहेवी पुण्या तस्य महीपतेः ॥३९॥

सदानसूया विहितागसेष्यसावहन्धती जीवितमप्युपासिता ।

वभौ महान्धं क्षमयन्त्यनिन्दिता महालसाभून्नपुनः कथंचन ॥४०॥

सा देवी नरदेवाद्देवाधिपतेः सचीव सच्चरिचं ।  
तस्मादसूत पूतं जयंतमिव वज्रमङ्गभुवं ॥४१॥

यशोदानन्दतां चक्रे पुतनामारणक्रियां ।  
जातो वृष्णिकुले कंसरिपोऽह्नेता नरोत्तमः ॥४२॥

तस्मादवाधितक्रोधाद्भृसिंहान्नखलाविनः ।  
हिरण्यकशिपुप्राणचाणं चक्रे न केनचित् ॥४३॥

देवाकर्णय कोशलेश्वरमितस्तूर्णं समाकर्ण्यता  
मादेशः क्रथनाथ सिंहलपते नत्वा वह्निः स्थीयतां ।  
त्वं विज्ञापय कुन्तलेन्द्रवदने दत्त्वोत्तरीयाञ्चलं  
नर्मस्थानगतस्य वेचिभिरिति त्यक्तुं समुक्तं वचः ॥४४॥

का त्वं काशीनृपतिवनिता कात्वमन्धाद्रिपत्नी  
कात्वं राढापारिवृढवधूः का त्वमङ्गेन्द्रपत्नी ।  
इत्यालापाः समरजयिनो यस्य वैरिप्रियाणां  
कारागारे सजलनयनेन्दीवराणां बभूवुः ॥४५॥

का त्वं कस्य किमर्थमचभवती माता शशाङ्कोज्ज्वला  
स्फूर्जत् कीर्तिरहं बुधैकसुहृदः श्रीवङ्गपृथ्वीपतेः ।  
भ्रान्ता विश्वमशेषभागतवती स्फारीभवत् कौतुका  
लोकालोकमहामहीधशिखरस्थायिश्रियं वीक्षितुं ॥४६॥

मरकतमयं स्वङ्गं लिङ्गं यदर्चितमैश्वरं  
त्रिदशपतिना तस्माल्लब्धं प्रसाध्य किरीटिना ।  
तदवनितलं तेनानीतं युधिष्ठिरपूजितं  
जयति जगति श्रीवङ्गेन प्रणम्य निवेक्षितं ॥४७॥

वेङ्गमन्यश्ममयस्तेन भूपालेन प्रतिष्ठितः ।

द्वितीयो द्योतते देवः क्षेत्रपाञ्चहरो हरः ॥४८॥

तेनायं शरदभ्युन्नश्चिखरः श्रीवङ्गपृथ्वीभुजा

प्रासादस्त्रिदशप्रभोर्भगवतः शम्भोः समुत्तम्भितः ।

यस्याभङ्कषकालधीतकलसप्रान्तस्खलत्स्पन्दतो

मेरोः शृङ्गमतुङ्गमेव तनुते चित्रायमाणोरुणः ॥४९॥

तस्याभङ्कषशृङ्गश्लिष्ये शरीरिषु कुतः ससवेशः ।

स्यमेव विश्वकर्म्मा तोरणरचनामिमां चक्रे ॥५०॥

जयति विकटवटोयं ह्याटककोटीरनेन तुल्यित्वा ।

स्वतुलित तुलापुण्याः शतशोविआणितास्तेन ॥५१॥

सङ्गर्भातिरतारताः परहिते संशुद्धबंशोद्भवाः

प्रारब्धाध्वरधूम धूम्रयपुषोऽप्येकान्तोनिर्मलाः ।

सत्तैथेधनधान्य वित्तवसुधादानेन संमानिताः

सौधेषु स्फटिकाद्रिकूटनिकटे प्रारोपिता ब्राह्मणाः ॥५२॥

द्वयसुब्रह्मकल्पेषु यवैकं प्रतिवासिषु ।

दक्षिणेन तुषाराद्रिं कल्पग्रामो परोभवत् ॥५३॥

रक्षित्वा क्षितिमम्बुराशिरसना मेतामनन्यायति

जीवित्वा शरदां शतं सनवकं श्रीवङ्गपृथ्वीपतिः ।

रुद्रं मुद्रितलोचनः स्वहृदये न्यायाज्जपन् जाम्बवी

कालिन्ध्योः सलिले कलेवरपरित्यागादगान्निवृत्तिं ॥५४॥

धर्म्माधिकारमनुशासति शास्त्रतोष

मित्रे सतां स्फुरितधामनि धर्ममुद्घौ ।

धीमद्यशोन्धरपरोधसि वेदगीते

सिद्धिं जगाम जगतीपतिकीर्त्तिरेषा ॥५५॥

त्वाद्य ॥ १८ ॥ मन्त्रसावरणजन्मा

श्रीनन्दनः कविरभूत् कविचक्रवर्ती ।

तस्यात्मजः समजनि श्रुतपारदृश्व

श्रीमांस्तपोधिकवली वलभद्रनामा ॥ ५६ ॥

सूनुः सूनृतगीर्गिरीन्द्रगरिमा भद्रस्य तस्याभवत्

भूपालैर्भुविबन्दिताङ्गिरनघः साहित्यरत्नाकरः ।

श्रीरामो रमणीयसूक्तिरचनाचातुर्यधुर्यः ह्यती

तेनेयं विहिता प्रशस्तिरतुला तच्चाख्ये सूचिता ॥ ५७ ॥

न संकीर्णवर्णाः कचिदिह न सापत्न्यकलुषाः

स्थिताः कायस्थेन प्रथितकुलशीलोज्ज्वलधिया ।

प्रशंषालेनायं विहितपदविद्येन लिखितः

प्रशस्तेर्विन्यासः ह्यतयुगसमाचारसद्गः ॥ ५८ ॥

विज्ञानविश्वकर्मा धर्माचारेण सूत्रधारेण ।

शिष्टाभिधेन विदधे प्रासादः प्रमथनायस्य ॥ ५९ ॥

यावत् पृथ्वी सपृथ्वीधरनगरवनोदन्तमुद्रासमुद्रे

यौवद्वाजिष्णुरूपदुतिरयममृतस्यन्दनः शीतरश्मिः ।

यावद्ब्रह्माण्डभाण्डस्थितिरियमथवा व्यासता स्थाण्वीयः

प्रासादस्तावदेष ब्रजतु नरपतेर्दत्तकैलासहासः ॥ ६० ॥

लिपिज्ञानविधिज्ञेन प्राज्ञेन गुणशालिना ।

सिद्धेनेयं समुत्कीर्णा सदृशरूपशालिनी ॥ ६१ ॥ संवत् १०९८ ॥

श्रीपृथ्वीपतिराजश्रीवज्रदेवराज्ये श्रीमरकतेश्वरस्य

प्रशस्तिः सिद्धा

उद्यतोऽमहोभूतोमसृशिता मत्तद्विपतायदैर्ज्ञेताः ।

सङ्गरं सङ्गमङ्गुररिपुपुत्रप्रियाश्रुत्करैः ॥६२॥

दिग्दन्ती जयवर्म्मदेवनृपतिः कीर्णाक्षरैर्योऽलिख

सेनालेखि पुनः प्रशस्तिरमलैरेवाक्षरैः दमाभुजा ।

विद्वद्भिर्जयपालहस्तकरणोऽमूग्यादरादितो

गौडः सोलिखदक्षराणि ककुदाकाराणि वंशाक्षुरः ॥६३॥

कायस्थो जयवर्म्मदेवनृपतेर्वंशस्य दीप्यत्कला

साहित्याबुधितः समुद्रततमोरन्ध्रनिग्यद्युतिः । संवत् १९७३

वैशाख सुदी २ शुक्ले

Translated by J. C. C. SUTHERLAND.

#### SALUTATION TO SIVA.

1. With internal joy be there reverence, to the unborn God, the cause of those vast holy fig trees, which approach the moon : who himself devoid of action, is the preserver and destroyer.

2. For your welfare (*saiva*) be the mystic dance of the god, which occurs at periods of annihilation ; in which rapidly whirl the summits of all the crested mountains, and in which, that mount (affixing as it were the earth shaken to the seventh sea), becoming like a headless but yet panting corse, falls a prostrate image,—trembling and whirling by the voices of its elephants.

3. " Who art thou on the threshold, naked and abject? How "unreasonably dost thou bear a trident in thy left hand. Fie on this "warlike shew. Truly those peacock's feathers become thee !" Thus gibed by his beloved, the god with a smile replies, " Know me to be MAHESVARA." " It is clear indeed, (she adds) and the confirmation is in your want of clothes." May that god SAMBHU be for your welfare.

4. This beautiful BHA'RATI<sup>(7)</sup> too excels, resplendent as pearl ; she who ever dwells in her lotus abode on the face of PASU-PATI.<sup>(8)</sup>

7. *Sarasvati*—eloquence personified.

8. Name of SIVA as lord of the animate world.

5. Excellent is that young elephant, who in his immature age, eager to snatch the tender filaments of the lotus, thrusts his proboscis on the section of the moon, fixed on the brow of *Siva*, and who is struck by *MRID'A'NI'* (smiling in her anger) with the agitated lotus sprout on her head (9)

6. Truly, in the beginning of the *kalpa*, the universe proceeded from *BRAHMA* wishing to create, when he had perceived the eternal void, enveloped in darkness and merely atmosphere. From him, when he had finished, proceeded the air. In that was produced fire; from fire proceeded water; from that prolific cause proceeded *BRAHMA*'s vast golden egg, streaked with rays of light.

7. By his wisdom, from the two segments of that egg *BRAHMA* created his sons, the seven *Munis* (*MAICHU* and the rest) the abode of holiness.

8. Amongst these dark-dispelling, intelligent *Munis*, was the illustrious *ATRI* of celebrated greatness; in the cavity of whose eye, was produced the orb of the moon, whose abundant light radiates like luxuriant hair. From him was born his pure son *CHANDRATREYA*.

9. Who can measure the glory and greatness of that holy man, the beloved image of the Omniscient, pure in soul; of him, who hath assured heaven and beatitude to the whole world, illumined with light, surpassed by his excessive splendor, dispelling all doubt and illusion?

10. From him sprung the wonderful *VAYVARYAMA*—faultless—naturally upright—of excellent disposition—eminent—unprejudiced—symmetrical from his large upper extremities—not slightly observant of fasts—fruitful to the root,—and never wasted by the spontaneous fire of cruel foes, the votaries of misfortune.<sup>(10)</sup>

11. As long as the moon (endures) the sovereigns of the race of *Chandratreya* illuminate the earth. [*The rest of this sloka is wanting.*]

12. Reverence to those ancient monarchs through whom the surface of the earth was encompassed by kings, who were friendly to the faith which has descended down—unvexed even when their lives were begged—strictly adhering to truth—who robbed of vermilion tint, the coronal streaks<sup>(11)</sup> of the wives of the powerful but rebellious chieftains.

9. *DURGA'* is described as fondling a young Elephant. One of *SIVA*'s names is *MRIDA'*, or delighted; whence his consort is called *MRID'A'NI*.

10. A double meaning pervades this verse; the epithets have a twofold sense, one applicable to the saint, and one to a tree. It would be impossible to preserve the *double entendre* in the translation.

11. The *Hindu* wife stains the line on the head made by the partition of the hair with red lead. The widow abstains from this and other ornaments.



13. In process of time in this great race the illustrious NANNUKA became sovereign; exalted in panegyric, and radiant with splendor,—like a gem amongst pearls.

14. The chariot-borne denizens of the sky were reminded of ARJUNA, by that stalwart bowman, rushing on to destroy his foes and brandishing his strung bow.

15. From him sprang an illustrious son, the sovereign VAG-YATI, of excellent fame—celebrated by the happiness of mankind, and like VAKPATI<sup>(12)</sup> in the observance of courtesy.

16. By that matchless warrior—whose eye was bright like the snake's—and who was kind to those eminent for learning—the shreds of anecdotes of PRITHUKA and KUNDA were put to shame, when he had dispelled the keen fear of his poet subjects.<sup>(13)</sup>

17. Of him, (the ornament of the earth) was born a grateful son the illustrious VIJAYA, renowned for victory; on the birth of which magnanimous treasure of greatness, holy garlands with parched corn, (*laja*)<sup>(14)</sup> were scattered down by the delighted wives of the immortals.

18. By divine choristers, joined by their earthly companions, was melodiously warbled the bright and exalted glory of the sovereign VIJAYA.

19. Like that snake, who is bent in humility, when made to uphold [the earth] by the son of SUMITRA'<sup>(15)</sup>—rich in his extended verdant plains—conqueror throughout the world—that lord (skilled to reward his friends) about to subdue the southern quarters, once again in no mimic war, sounds his martial musick.

20. From that monarch, resembling as it were the ocean, was born the amiable king VAHILA, the moon of men; by whom, darkness was dispelled, and who bade pour forth the stream of poet's praise.

21. Innumerable houses became pervaded by brilliant light when the king was pleased; so also the mansions of his enemies, when he was angered.<sup>(16)</sup>

22. In regard to gems and the wealth of the people *Kosa pāna* in its sense of ordeal, was not known; but in its sense of adhering to the scabbard, was familiar to their swords. *Pazapāta*, in the sense of

12. A name of VACHASPATI the *Guru* of the Gods.

13. These are Pauranik Heroes, to whom various feats of valor and generosity are attributed.

14. *Laja*, vulgarly called Khoi.

15. LAXMANA.

16. A double entendre or pun (the rhetorical figure *slesh*) pervades this *Sloka*. Indeed an epithet is construed with each of the antithetic members. It is said to be a stalk with two flowers.

loss of plumage, did exist in his capital in respect to arrows ; but in the sense of partiality was not obtained by his friendly courtiers.<sup>(17)</sup>

23. From him, by the blaze of whose intense glory, great kings were consumed like cotton—from him, graced with every eminent virtue, who robbed of their renown wide spreading trees—was born, for the delight of mankind, that SRI HARSHA,—a gem dispelling (as it were a fever)<sup>(18)</sup> the joy of his enemies, who (exempt from every sin) by his own right arm, subdued capricious glory.

24. Unconquered in war—armed with a sword—with his face dilated by the frown above the petals of his lotus-like eyes inflamed with anger—whom, having seen, the glories of his enemies gradually receded from all quarters, with faces quailing as if under the palm of his hand, and with bodies now trembling with fear.

25. The sea-girt world like a citadel was preserved by that mailed hero, by means of his unerring and terrific arm.

26. Skilled to counteract his enemies, he soon reproached the sea ; for he was unaddicted to partiality (*apaxa dharma*), and was averse to association with the evil minded (*doshā kara*), and inimical to vile and cruel detractors (*bhujanga*).<sup>(19)</sup>

27. Kings (who by their hands were able to push aside strong horses) cheerfully submitting to his dominion, would eat at the threshold of that hero—stained as it was by the mud caused by the exudations from the heads of elephants.

28. His most beloved wife was KANKUTA, like a necklace, being bright as the lustre of the moon ; inestimable, and heart penetrating.

29. She, who longed for his society, was the orriament of women—the sole grace of the world. For her colour shone like gold—her eyes were like the dark lotus, which expands before the moon—her hand was ruby-red—grace was in her steps—her lips were of coral—and her mind was pure like the pearl itself, just emancipated from its parent shell.

30. Of him and her (the offspring of the celestial *Ganga*)<sup>(20)</sup> of pure renown, the remembrance of whom destroys a multitude of sins

17. This verse is in the true vein of Sanscrit pedantry. The words explanatory of the double sense of the words (on which the poet puns) are of course wanting in the original.

18. There is a fabulous gem by contact with which fire loses its combusive virtue. It is here alluded to.

19. The influence of the moon on the tides has been long known to the Indians, and is often alluded to in *Sanscrit* poetry. According to the *paxa*, or semi-lunation, the tides increase or decrease ; the sea is thus said to be affected by the *paxa*. It is likewise not indifferent to the *Doshākara*, the moon, or night-maker. It abounds also with *Bhujunga*, serpents. It is probable that the pedantic author of these verses, some of which are in the true poetic vein, considered the puns of this stanza as his *chef d'œuvre*.

20. It is indicated that KANKUTA was of the *Gangetic* race.

and abounds in holy shrines) the son was YASO-DHARMA DEVA, the abode of virtue, naturally obedient to his father, of great prowess, and creating a doubt whether he was BHISHMA or UPENDRA.<sup>(21)</sup>

31. Though shewing like premature grey hairs, still the brilliantly white dust on his head (received in prostration to the feet of Brahmins) obtained increased beauty.

32. SIVI only gave a piece of his flesh (*pal*) to a single bird (*dvija*)<sup>(22)</sup> who begged it ; but that king bestowed millions on all who asked.

33. Through awe of that victorious monarch, kings conceived these notions ;—when prostrating their foreheads on the ground, that he was an animated gem ;—when preceding his equipage, that to march on foot was an office distinguished by dignity ;—that to speak to him, was as if on every side there were life and triumph ;—and that to make every sort of obeisance, was a graceful attitude.

34. His brilliant conduct covered with glory, as if overspread by a coat of white plaster, now placed him on a level with these miracles,—the mansion of the king of snakes, ever illuminated by the moon—and the expanse of the atmosphere strewed with jasmine flowers.<sup>(23)</sup>

35. Though in greatness rivalling the luminary borne by seven horses, and capable of seeing beyond the seven seas, no man in this world could scan the ocean of his mind.

36. When his power was annihilated, dominion (*Dhrita-rashtra*) and prosperity were denied to the enemy—who poured forth those plaintive notes (*Gandhari*) grateful as the warbling of a bird (*Sakuni*) ; who fainted at hearing the mangling by terrific (*bhishma*) crows (*Drona*) of the ears (*Karna*) and faces (*Asya*) of men (*Nara*)—and who was now conscious of that hero's valor and prowess (*Dharma prabhava*). This was strange.<sup>(24)</sup>

21. BHI'SHMA was the son of GANGA ; his father was SANTANU : he was general of DURYODHANA, the opponent of his cousin YUDHISTHARA. UPENDRA is a name of KRISHNA.

22. A passage in the *Mahabharat* is alluded to. SIVI was celebrated for his generosity ; a bird demanded surrender of his prey which had taken refuge with SIVI. His offer of other food is rejected, and the victim or a piece of SIVI's own flesh insisted on. The just and generous king complies with the latter alternative. Puns again are perpetrated on the words *pal* and *dvija*, which signify a weight and a *Brahman* respectively, besides the senses taken in the translation. The partakers of YASO DHARMA DEVA's liberality were *Brahmans*.

23. These are impossible events, something like Virgil's leaves inscribed with king's names.

24. A play on the words runs through this Sloka—DHIRITA-RASHTRA was husband of GANDHARI, the sister of SAKUNI. BHISHMA, DRONA, KURNA, and NARASYA, are generals of DHIRITA-RASHTRA and his son DURYODHANA. DHARMA-PRABHAVA is a name of YUDHISTHARA, nephew of DHIRITA-RASHTRA. See *Sri Bhagavat Purana*. The ambiguity is lost in the translation. BHISHMA and the rest might be taken as the CLOANTHI and GYAANTES of the enemy's army with less outrage to common sense.

37. What boots it that a ditch was dug by the sixty thousand royal sons of SAGAR who devoted their lives; and that it was filled with water by his grandson and two other descendants in the first and second degree? Hearing the narrative of the origin of the sea (*Sagar*), he idly emulous made a vast undulating lake greater than the sea itself.<sup>(25)</sup>

38. Resplendent as the autumnal moon, as soon as that palace, which had bruised the horses' hoofs and shattered the chariot wheels, was seen by the charioteer of the sun, he swerved his car from its path, —that palace of which the golden ball, gave the idea of the solar disc kissing the summits of the snowy mountains, and constituted the delight of the household image of VAYKUNTA, the foe of demons.

39. Of that great king the chaste queen was NARMA DEVA, high-born, happy, and beloved on earth.

40. Even when injured she was always unresenting; but when benefitted, lavish of her life; forgiving the arrogant, but never addicted to pride herself.

41. The queen bore to that god amongst men a virtuous and pure son, BANGA; —just as SACHI bore JAYANTA to the Ruler of the Gods (INDRA).

42. That best of men (*Narottama*) born in the race of VRISENI, the cleaver of the skulls of his foe, surnamed pure (*PUTA NAMA*) imparted gladness to his encomiasts, (*Yasodā 'nandatā*) and adhered to peaceful pursuits.<sup>(26)</sup>

43. By that lion-like man, resistless in his anger, safety of life was never allowed to the robber of gold (*Hiranya Kasipu*).<sup>(27)</sup>

44. "May it please your Majesty from this place to listen to the "lord of *Kosala* (Oude)?" "Lord of *Kratha* let the mandate be "quickly heard." "Oh Ruler of *Sinhala* (Ceylon) prostrate yourself, "and stand outside." "Speak chief of *Kuntala*, first putting up your "cloth to your mouth." Such were the words spoken by the door-

25. Allusion to the *Puranic* origin of the Ocean is made. SAGAR had determined to reap the fruit of an *Amra-Medha*. The first stage of this is the release of the victim horse with a label. When fairly caught after battle with rivals he is slain, and the sacrificer obtains his vow. INDRA alarmed for his throne had the labelled horse picketted in *Patdla*, in the centre of the earth, before the *Muni* KAPILA. SAGAR's sons baffled in their chase dug for the victim. Finding him, they abused the *Muni*, by whose curse they became ashes. By the successive austerities of ANSUMAN, DILIPA, and BHAGIRATHA, grandson, great grandson, and great great grandson of SAGAR, the celestial Ganges was brought on earth, and filling the excavation, reanimated the ashes of their progenitors who ascended to heaven. The poet indicates that YASODHURMA DEVA dug a great Tank.

26. A play on words pervades this stanza. It may refer to KRISHNA or NAROT-TAMA, also called PUTANAMA, who was the delight of YASODA, his adoptive mother.

27. The same *Jeu de mots* is kept up.

keepers to dismiss attending kings when he had retired into the female apartments.

45. "Who art thou?" "The beloved of KA'SHI's lord;" and thou? "The wife of the king of *Andhra*;" and thou? "The spouse of the chief of *Radha*;" and thou? "The bride of the prince of *Anga*."—Such were the colloquies with the wives of his enemies detained as captives, while their lotus-like eyes were suffused with tears.

46. "Who art thou? of whom? and for what object art thou come; thou who art resplendent as the luminary whose emblem is the hare?" "I am gleaming fame; and wandering over the universe, I am come, fervently anxious to behold the glory of the monarch BANGA, the sole friend of the learned, which has reached the crest of the vast mountain of *Lokālok*."<sup>(28)</sup>

47. Placed by BANGA, after prostration made, that divine symmetrical *Linga* made of emerald, is victorious in this world. Worshipped by INDRA, it was obtained from him by ARJUNA, who had pleased him and brought by him on earth, and adored by YUDHISHTARA.

48. In the fane, a stone god put up by that king shews a second HARA, the remover of the bonds of pain.

49. By that King BANGA was erected this fane of the lord SAMBHU, the chief of the gods, with its summit, bright like the autumnal clouds; of which, by gliding near the golden cupola, (furlowing as it were the sky) ARUNA, rendered radiant, abashed the crest of MERU.<sup>(29)</sup>

50. For the nice construction of its spire the skill of no mortal could have availed; VIŠWA KARMA<sup>(30)</sup> himself must have turned this arch.

51. How this vast *Vata* tree surpasses!—A hundred times were given by him crores of golden coins, in quantities equiponderous with his body, by which they were weighed.

52. Enthusiastic in the true faith, and delighting to benefit others, seven high born *Brahmins* were located in palaces, revered by gifts of wealth, grain, and lands;—perfectly pure, though their bodies were tinged by smoke from ever-enduring sacrifice.

53. Two *yavas* at *Sri-Brahma Kalpa*; one in the vicinity. On the south of the snowy mountain, *Kalpa gram* was another.

54. Having ruled this earth, girt with waters as if by a girdle, and unsubjected to any other; when he had lived 109 autumns, with eyes closed, and (as ordained) fervently reciting the name of RUDRA, the royal BANGA obtained final beatitude by abandoning this mortal coil in the conflux of the *Yamuna* and *Ganges*.

28. The Sun never reaches this mountain.

29. *Aruna* is the Dawn, the charioteer of the Sun.

30. The celestial architect.

55. Then did this glory of the world's lord attain perfection, when the wise priest YASONDHARA, skilled in the *vedas*, and the friend of the gods, here administered—according to law—scattering light on jurisprudence.

56. Born in the tribe of TWAXARA, and in the family of SAVARA, was a poet called SRI NANDANA, the prince of bards. To him was born a son, the illustrious BAL BHADRA, who had read through revealed law, and was powerful by the observance of religious austerities.

57. Of that BAL BHADRA, SRI RAMA was the son; great as it were like a vast mountain,—of pleasing speech,—whose feet earthly kings adored,—exempt from sin,—and celebrated as the ocean of literature,—and skilled in elegant composition. By him composed, this incomparable panegyric was published in the temple.

58. Who had learned the science of words,—by the sensible KAYASTHA PASAMPALA, distinguished by his race and disposition, the transcript of this panegyric was arranged. Here are no confused letters nor any obscure from rivalry.<sup>(31)</sup>

59. This temple of PRAMATHA NATH was constructed by the architect XIÇCHA, virtuous, and a VISWA KARMA in science.

60. As long as this world with its mountains. cities, forests, its histories, memorials, and seas [shall remain]; as long as this sun shall shine; as long as water shall ooze from the luminary whose rays are cool; as long as the segment of the divine egg shall be fixed, that is expanded; so long let this temple, dedicated by the monarch to SIVA endure,—mocking as it does mount *Kailasa*.

61. By the wise, and gifted SINGHA skilled in the science of writing, was this specimen of calligraphy engraved. *Sambat 1019.*

In the reign of Raja BANGA, lord of the earth, this PANEGRIC OF THE EMERALD IMAGE was finished.—

62. Afflicting even infuriated elephants,—by the abundant tears of the children and wives of his enemies (broken in the conflict of war) of that great king these lines became obliterated.

63. The king JAYAVARMA DEVA (like an elephant supporting the universe) rewrote in clear letters the above verses, which he had before written in irregular letters (*kirna*). These letters, in the *Kakuda* form that GAUDA KAYASTHA, aided by the learned, inscribed by the hand of JAYA PAL,—that *Kayastha* of untarnished lustre, having a numerous progeny, the radiant moon of the king's race, who, the dispeller of gloom, had risen from the ocean of polished literature.

*Sambat 1173. Friday 3 Vaisakh (Sudi) bright half.*

31. The distinction of nearly uniform is preserved.

*Prosodial Key.*

A sloka, or stanza, consists of four *padas*, lines, or quarter slokas. They are generally, but not always, identical. Metre is *Jati*, or measured by *matras*, or instants. In this, one long syllable and two short syllables are equivalent. Or it is *Vritta*, scanned by defined feet.

The following slokas are *Jati* of the *Arya* species. First and third *padas* have 12 *matras* : second has 18 ; and fourth has 15 *matras*.

1. 4. 15. 20. 35. 41. 50. 51. 59. 62.

The other slokas are in the following metres, in which all four *pada* are identical.

## Slokas.

Sarddula Vikriditam	- - -   ० ०   ०-०   ००-   - - ०   - - ०   -	{ 2. 3. 6. 9. 10. 12. 17. 24. 29. 33. 36. 37. 44. 46. 49. 52. 54. 57. 63.
Malini .....	...   ०००   ०००   - - -   ०- -   ०- -	5. 19.
Mundacranta .....	- - -   - ००   ०००   - - ०   - - ०   - -	8. 27. 30. 45.
Rathoddhuta .....	- ०-   ०००   - ०-   ०-	14. 18. 22. 31
Vasantatilakam .....	- - ०   - ००   ०- ०   ०- ०   - -	16. 55. 34. 56.
Srugdhara .....	- - -   - ०-   - ००   ०००   ०- -   ०- -	23. 38. 60.
Vansasthivilam .....	०- ०   - - ०   ०- ०   - ०-	26. 40.
Hurini .....	०००   ००-   - - -   - ०-   ००-   ०-	47.
Sikhurini .....	०- -   - -   ०००   ००-   - ००   ०-	58.

*Anush-tup*.—This is a very common measure. Each Pada consists of four dissyllabic feet: the third foot must be an iambic, and the first syllable of the last foot is alternately long and short. The syllables of the remaining feet may be either long or short. ....

{ 7. 13. 21. 25. 28. 32.  
36. 42. 43. 48. 53. 61.

ART. II.—*Account of a Journey to Beylah, and Memoir on the Province of Lus.* By Lieut. CARLOSS, Indian Navy.

On the 10th of January, having received an answer to a letter I had written to the chief of Lus, announcing my arrival at Soonmemy with a letter and some presents from the Bombay Government, I commenced my journey to Beylah. Two chiefs with a small party of followers had been sent to accompany me to the capital, but as they were not ready to proceed, and I did not wish to delay my journey, I started, accompanied by Dr. Hardy, without them.

The road for some distance led over a confused mass of low hillocks covered with loose sand, or across the low swampy hollows between them, and the country had every where a most barren and desolate appearance, there not being a tree or a bush to be seen. About five miles from Soonmemy we arrived at a ridge of sand hills, about 150 feet high, from the summit of which the Poorally river was visible to the W. N. W., with an extensive tract of thick mangrove jungle stretching along the left bank ; at this place we halted for a short time

until the chiefs who were to accompany us made their appearance, and then continued our journey across a low flat plain, covered with saline bushes. About an hour after sunset having reached a spot where the land was higher, and water procurable, halted for the night. In the course of the evening many travellers had collected at this spot, and by the time we arrived forty or fifty had encamped about the wells, which are merely small holes dug at the foot of a high bank, yielding a scanty supply of brackish water. There was a Syud amongst them, a noted story-teller, who continued to entertain a large audience with his tales until the night was far advanced, and as he possessed a deep and melodious voice, the effect of the kind of recitative style in which they were chaunted was extremely pleasing.

On the following morning started for Layaree, a small town six miles distant, which we reached early in the afternoon. The level plain between the sand hills and Layaree is scored throughout with marks made by the passage of water, and overrun with saline bushes, intermixed here and there with patches of stunted tamarisk trees. Our attendants told us that the Poorally flows through this plain during the inundation, and pointed out the beds of two deep water courses through which the water escapes in the latter part of the season. The river, they said, had no decided bed from Layaree, where there is a bund thrown across it, to its mouth, a distance of about twelve miles, but discharges itself into the bay and harbour of Soonmemy by several outlets, through the low grounds near the sea coast.

Layaree is a small town, containing about fifty mud built houses, prettily situated in a grove of large baubool trees; there is a large tank near it filled by a canal from the river, and half a mile to the N. E. is seen the small village of Charro, which is the residence of the darogah, or collector of taxes. At least a third of the population is composed of African slaves, who perform all the out-door labor. In my walks about the place I met several who complained bitterly of the treatment they received, and earnestly begged me to receive them on board the vessel, for they had determined to escape from their masters on the first opportunity. In the immediate vicinity of the town the country is open, and the ground laid out in fields, in which wheat, jowaree, cotton, and oil seed are cultivated. Farther off the land is overrun with high thick jungle, but in the small open spaces that occur here and there, is covered with grass, which although of a coarse kind, affords excellent pasturage for the flocks and herds.

Shortly after our arrival at Layaree, and before the baggage camels had come up, word was brought that a chief had just arrived from Beylah with Teeruthdass, the Jam's dewan, and wished to see me. As soon as a place had been prepared to receive them, by spreading



mats and carpets under the shade of a large tree, he came attended by a few armed followers, and delivered a complimentary message from the Jam, expressing his satisfaction at my visit. The chief was a little old man, with a strongly marked Arab countenance.

In the course of the conversation that ensued, I found they wanted me to remain at Layaree until they received further instructions from Beylah respecting my journey; but as this would have delayed me many days, I told them decidedly I should take it ill, if any objections were made to my proceeding immediately, and that on the following morning I should either continue my journey, or return to the ship. This seemed to puzzle them extremely, and they at last begged I would stop only one day, when they would be ready to accompany me, to which I agreed. In the course of the evening one of their attendants brought a quantity of rice flour, ghee, &c. for the use of the party.

13<sup>th</sup>. On sending to the chief to tell him I was ready to proceed, he said he should be detained a short time at Layaree to settle a dispute that had occurred there, and would join me at the next stage. At 10 started. For about three miles passed through cultivated grounds in which nothing but the oil seed plant was apparent, and then turning to the N. E. pursued a track leading along the bank of a deep dry nullah, running through thick tamarisk jungle: it extended several miles, and the trees were every where leafless and withered, with the exception of the small patches of undergrowth springing from their roots. As soon as we had got clear of the jungle we came upon an extensive tract of cultivated ground, watered by canals from the river, and dotted here and there with huts; at this place, where we halted for half an hour, the soil being good yields abundant crops of oil seed and cotton, and game is plentiful.

On resuming our journey, crossed a level plain thinly overspread with withered saline bushes, and extending as far as the eye could reach, apparently to the foot of the mountains on either side. We traversed it for a distance of eight miles, and after passing through an open jungle of tamarisk and mimosa trees, about five miles beyond it reached the Poorally river, and halted for the night. The distance from Layaree to this place is about eighteen miles. Here the Poorally is about 400 yards broad, and flows from east to west, which is a proof that we must have crossed its course before we arrived at Layaree, as our attendants asserted; the banks on both sides rise perpendicularly to a height of fourteen or fifteen feet, and a stream of water twenty yards broad and two feet deep pursues a winding course through the centre of its bed.

The morning of the fourteenth was extremely cold, the thermometer having fallen to 35° at day light. During the night the camels

had strayed some distance into the jungle, and the drivers being unwilling to go after them in the cold, became sulky and intractable when ordered to do so. This brought on a quarrel between them and one of the chiefs who attended us, which did not terminate until he drew his sword, and threatened to slay them on the spot if they did not immediately bring them in; frightened at his meances, they departed in haste to look for their beasts, but so much time elapsed before they could be found, that we were not ready to start until near noon.

Having proceeded four or five miles across a level plain, thickly covered with low salt bushes, we came again upon the river, which at this place is joined by the Rahto, a stream of some magnitude, flowing from the mountains to the eastward; at the point of junction the bed of the Poorally is nearly a mile wide, and when full must form a fine sheet of water. The greater part of it is overrun with jungle, and the water meanders through it in two streams, about fifteen yards wide and as many inches deep. The soil is covered in many places with a thin saline incrustation, which from the taste appears to be natron. Two alligators were lying asleep on the bank a short distance from the place where we crossed.

On the opposite side of the river we met a fine-looking young man, mounted on a camel and attended by a few soldiers, who civilly stopped to salute us. He was a son of Arab Oosmanany, the chief of the Arab Gudoor tribe, and when he had been told that we did not understand the language, endeavoured to find out from the interpreter the object of my visit to Lus.

Late in the afternoon we reached Oot, two small villages about five miles from Beylah. During this day's journey the road gradually inclined toward the western range of mountains, and we had passed through a level country, alternately overrun with saline bushes or thick jungle. We were now not far from the head of the valley, which is encircled by high mountains, and numerous thin columns of sand were visible in every direction, caused by the eddying currents of wind sweeping out of their recesses. They moved over the plain with great rapidity, and whenever one came near us, I could hear the chief who guided my camel mutter to himself, "Pass away from the road good demon, and do us no harm; I am only going to Beylah with the English gentlemen who have brought presents for the Jam." Amused with this odd request, I asked him the meaning of it, when he told me with great gravity that we were now in the territory belonging to the ancient city Shuhr Roghun, once the favorite residence of the fairy Bad-dul Jamaut, and that these columns were demons who had since taken possession of it, to whom it was necessary to speak sweetly to prevent them from playing us any tricks.

Oot consists of two small villages belonging to Arab Oosmanany, the chief of the Arab Gadoor tribe, one containing about 50 and the other 25 houses. The baggage not having come up, the carpets were spread under the shade of a large tree, and we were quickly surrounded by the whole population, to whom our dress and appearance seemed to afford considerable amusement. Arab Oosmanany, the chief, was at the village waiting to conduct us to Beylah; and being informed of our arrival came to pay us a visit, the whole of the villagers having been previously summoned to compose his retinue. In the course of conversation, I told him that amongst the presents there was one for him, which he begged might be delivered in the presence of the Jam. In the evening he sent us a sheep, with a quantity of flour, rice, ghee, &c., and requested we would let him know if we wanted any thing else.

At noon next day the Kossid who had been dispatched to Beylah the night before, to announce our approach, having returned, we left Oot accompanied by Arab Oosmanany and a small party of military followers. For the whole distance the road passed through a succession of cultivated ground, interspersed with small thickets composed of a high bushy tree which appears something like the willow. As we left Oot we met ten or twelve hideous looking beings dressed as women, and mounted on donkeys, who saluted us as they passed; from their peculiarly disgusting appearance and bold manners, I was induced to inquire of my companion who they were: he laughed, and said they were eunuchs. Descending by a deep irregular water course into the dry bed of a river flowing from the N. E. and about 700 yards broad, we crossed it and entered Beylah. On approaching the town the housetops were seen literally covered, and the streets thronged with people: as we entered it the crowd set up a wild shout, shrieking and hallooing with all their might, and created such a dust that I was almost suffocated. The ladies also favoured us with a shrill scream, but whether of welcome, admiration, or disgust, I could not exactly make out. The young Jam, we were told, was amongst the spectators. Arab Oosmanany turned off to the palace to report our arrival, and we were conducted to a house which had been prepared for our reception; it was a most wretched dwelling, but with the exception of the palace, as good as any other in the town. The people crowded into the outer room without ceremony, and although the Jam had sent six soldiers to keep them out, they found it impossible to do so, and I was at last obliged to turn every one out myself and fasten the door: whenever it was opened a general rush was made, and some hard fighting took place between the guard and the mob before the latter could be driven back. Some of the principal inhabitants confiding in their rank, rudely walked into

the inner apartment where we were sitting, but they were soon made sensible of their mistake by being immediately turned out of the house, and told that whoever wished to see us, must first ask and obtain permission.

About two hours after our arrival one of the chiefs brought a complimentary message from the Jam, but the real object of his visit it appeared was to ascertain precisely my rank, which having done, he departed ; shortly after Arab Oosmanany came alone, and informed me that the Jam would give me a public audience next day.

Late in the afternoon a chief came to conduct us to the house where the Jam was waiting to receive us, but no horses having been sent I requested him to go back and get three, which in a few minutes made their appearance. Preceded by the presents, and attended by a party of soldiers, we proceeded through the town, and after having passed with some difficulty through several narrow streets, filled with a crowd of people, shouting as if they were mad, alighted at the door of the Kutchery, which, from the dense mass collected round it, was hardly approachable ; on entering the court-yard we were received by one of the chiefs, who taking me by the hand led me towards a covered veranda, or room open in front, where the Jam was seated in state ; although the hall of audience was merely a rude mud building, without ornament or furniture of any kind, the coup d'œil was rather imposing, the group drawn up inside being arranged so as to produce the best possible effect. In the centre sat the young chief, on a square platform raised about a foot high, and covered with a carpet and cushions of silk richly embroidered. His relations and chiefs were disposed on either side according to their rank, Ularacky, his chief confidential adviser being seated on his right hand a little in advance, and his tutor, the Hadgi Hafiz, on his left, and the back ground was filled up by a body of well dressed, fine looking military retainers. My conductor having led me up to the musnud, the Jam desired me to sit down on a carpet laid in front of it, and the usual complimentary speeches and inquiries were made by the minister Ularacky, who conducted the whole business. During the time the interview lasted, the young chief, who I imagine had been well tutored for the occasion, sat without uttering a word, with a vacant incurious expression of countenance which was no doubt assumed. He is a handsome lad, of thirteen or fourteen years of age, with fine expressive eyes, rather fair complexion, and a profusion of long jet black ringlets falling on each side his face. At present his countenance is rather feminine, and when we saw him in his state robes, which from their peculiar fashion aided the resemblance, he appeared more like a young Indian queen

than the chief of a wild tribe of Noomrees. He wore an under dress of crimson and gold kincaub, with trowsers of striped silk, and over this a mantle of pale blue satin richly embroidered with gold and silver thread, colored silk, &c., in the pattern peculiar to the Cashmere shawls. His turban formed of splendid kincaub was extremely large, and adorned with a feather of open gold work, set with emeralds, sapphires, rubies, &c. and another ornament richly set with jewels, similar to what I believe is called in Europe a *seigni*, from which hung several strings of large pearls. A gold-hilted sword, with a shield ornamented with chased gold knobs lay before him, and completed his equipment. After the presents had been exhibited, which appeared to excite the admiration of all present, I took leave, and attended as before by a party of soldiers, amongst whom I distributed a few rupees, as is customary on these occasions, returned to the house.

During the week I remained at Beylah I had several long conversations with Ularacky, the Jam's minister. Ularacky is the second chief of the Jamootry, the particular tribe to which the Jam belongs, and has been chosen by the Jam's mother in consequence to conduct the government of the province under her superintendence; he is a fine intelligent old man, without any of the prejudices against Europeans which generally exist in the minds of those natives of India who have had no intercourse with them; but being surrounded by chiefs belonging to the other tribes, who are jealous of his influence with the reigning family, he is obliged to act with the greatest caution.

Beylah contains about 800 houses constructed of sticks and mud, and between four and five thousand inhabitants; it covers a small piece of elevated ground rising above the banks of a river of some size, flowing from the N. E. which joins the Poorally about a mile farther to the westward, and with the exception of the N. E. quarter, which is surrounded by a ruinous mud wall, is entirely undefended. The palace of the Jam is within the walls, and is the only brick building in the place. About Beylah a large portion of the land is under cultivation; and the face of the country presents a pleasing succession of grassy plains and small woods, which with the advantage of being placed nearly at the junction of two rivers, and at an equal distance from the mountains on either side, renders it the best spot in the province that could have been selected for the site of the capital. The Poorally passes about a mile to the westward of it, and spreading over a large extent of surface forms several swamps, which are fed by numerous springs; in some of them rice is cultivated, and the ground about their banks is every where much broken by deep gullies worn by the water flowing into them in the rainy season.

Ularacky having communicated to me the decision of the durbar respecting the survey of Soonmemy, and finding the Jam's answer to the Government letter would not be ready for two days, I determined to employ the interval in visiting Shuhr Roghan, an ancient excavated city, situated amongst the mountains to the northward; on stating my wish to Ularacky, he at last obtained the requisite permission from the Jam's mother; who as a compliment, sent one of her confidential attendants with her son's state-matchlock to accompany me.

Beyond the town the road for some distance wound through a thick wood occupying the bed of a deserted river; here and there it opened out into small but picturesque glades, but in general the underwood was so dense, that we had some difficulty in making our way through it: the bushes were full of birds, amongst which I noticed several parrots, and a very pretty little bird with green and golden plumage: it was decidedly the most beautiful spot I had seen in the province. On ascending from the bed of the river we came upon an open plain thickly covered with large rounded stones, and cut up in every direction by deep water courses, and about four miles from the town crossed the dry bed of a river about 500 yards wide; a short distance beyond it is situated the small village of Momadary surrounded by fields, and to the eastward a grove of lofty trees was visible, where my attendants said the Jam had a large garden. From Momadary to the head of the valley the stony plain is thinly dotted with bushes, and every where deeply furrowed by channels; this part of the valley rises slightly to the foot of the hills, and from its appearance, must have water flowing over its surface in the rainy season, towards the Poorally, from one range of mountains to the other.

About nine miles to the northward of Beylah, a range of low hills sweeps in a semicircle from one side of the valley to the other, and forms its head. The Poorally river issues from a deep ravine on the western side, and is about 200 yards broad; it is bounded on one side by steep cliffs, forty or fifty feet high, on the summit of which there is an ancient burying ground, and the water runs bubbling along it in two or three small rivulets, amongst heaps of stones and patches of tamarisk jungle. Having crossed the stream we pursued our way up its bed amongst the bushes, until we gained the narrow ravine through which it flows, and then turning into one of the lateral branches entered Shuhr Roghan. The scene was singular; on either side of a wild broken ravine the rocks rise perpendicularly to the height of four or five hundred feet, and are excavated as far as can be seen; in some places where there is footing to ascend, up to the summit; these excavations are most numerous along the lower part of the hills, and

form distinct houses, most of which are uninjured by time; they consist in general of a room fifteen feet square, forming a kind of open veranda, with an interior chamber of the same dimensions, to which you gain admittance by a door; there are niches for lamps in many, and a place built up and covered in, apparently intended to hold grain. Most of them had once been plastered with clay, and in a few, when the form of the rock allowed of its being done, the interior apartment is lighted by small windows. The houses at the summit of the cliffs are now inaccessible, from the narrow precipitous paths by which they were approached having been worn away; and those at the base appear to have been occupied by the poorer class of inhabitants, for many of them are merely irregular shaped holes, with a rudely constructed door. The rock in which these excavations have been made, is what I believe is called by geologists Conglomerate, being composed of a mass of rounded stones of almost every variety of rock, embedded in hard clay; it contains a large quantity of salt (I think natron), which is seen in a thin film on the walls of all the chambers, and at two or three spots in the upper part of the ravine, where water drops from the overhanging crags.

It would be singular if such a place as Shuhr Roghan existed amongst a people so superstitious as the Noomrees without a legend of some kind being attached to it, and they accordingly relate the following story: In the reign of Solomon the excavated city was governed by a king celebrated all over the East for his wisdom, and the great beauty of his only daughter Buddul Tumaul; she was beloved by seven young men, who from the great friendship existing among them, were called by way of distinction "the seven friends," but they perished one after the other in defending the object of their adoration from the designs of half a dozen demons, who, attracted by her surpassing beauty, made repeated attempts to carry her off. At this interesting period of her history Syful Mullik, son of the king of Egypt, arrived at Shuhr Roghan, who being the handsomest man of his time, and as brave as he was handsome, had been dispatched by his father on his travels, in the hope that by the way he might conquer a few kingdoms for himself. The princess, as a matter of course, fell in love with him; the demon lovers were in despair, and made a desperate effort to carry her off when at her devotions, but were all slain in the attempt by the prince. The father of the fair princess rewarded him for his gallantry with the hand of his daughter, and the happy couple lived to reign for many years in peace and security over the excavated city. Such was the tale related to me by my attendants, which forms the groundwork of a story written in the Persian

language, entitled, "The Adventures of Syful Mullik with the Fairy Buddul Tumaul." I obtained a copy of the work at Kurachee.

A short distance above the entrance of the city, the broken precipitous ravine in which it is situated decreases in width to ten or twelve yards, and forms a deep natural channel in the rock. For about half a mile the cliffs are excavated on both sides to a considerable height, and taking the remains of houses into account, I think there cannot be less altogether than 1500. In one place a row of seven, in very good preservation, was pointed out by the guides as the residence of "the seven friends," and further on we came to the grandest of all, the palace of Buddul Tumaul. At this part, the hill, by the abrupt turning of the ravine, juts out in a narrow point, and towards the extremity forms a natural wall of rock about 300 feet high, and twenty feet thick; half way up it had been cut through, and a chamber constructed, about twenty feet square, with the two opposite sides open; it is entered by a passage leading through a mass of rock partly overhanging the ravine, and on the other side of the apartment two doors give admittance to two spacious rooms; the whole had once been plastered over, and from its situation must have formed a safe, commodious retreat. At the summit of the hill near it there is another building, which my attendants said was the mosque where the princess was rescued by Syful Mullik, when the demons attempted to carry her off. Having seen every thing worthy of notice in this troglodytic city, we quitted it, and returned to Beylah.

On the 21st the letter and presents for Government having been delivered to me by Ularacky, I left Beylah late in the afternoon, and on the evening of the 24th arrived at Soonmemy. On the road we met a party of fakeers proceeding to Hinglaj: they presented a most grotesque appearance, their faces besmeared with paint, and their ragged garments decorated with tufts of feathers, and a variety of irregular ornaments. Their *agwa*, or chief, who was a portly, well-dressed personage, marched at their head, and carried a long white wand as the badge of his office. These poor wretches had collected from all parts of India, and as we approached them they set up a loud shout, exclaiming "Hurrah for the holy saint of Hinglaj—we are going to visit our good grandmother—praises to *Kalee*, the holy goddess! hurrah, hurrah."

Hinglaj, the shrine to which they were proceeding, is situated about a day's journey from the sea-coast, at the extremity of the range of mountains dividing Lus from Mukran, and is said to be of great antiquity. The temple is merely a small building erected on one of the mountain peaks, and is held in great veneration by both



Hindoos and Mussulmen. It is dedicated to *Kalee*, the goddess of fate, and there is a large circular tank or well near it, which the natives say has been sounded to a very great depth, without bottom having been obtained; they relate that one of the priests employed himself for a whole year in twisting a rope for the purpose, but it was not long enough. Those who can swim, jump into the tank from an overhanging rock, and proceed through a subterranean passage to another part of the mountain, which is believed to purify them from their sins. There is also a species of divination practised by throwing a cocoanut forcibly into the water, and according as the bubbles rise in a larger or less quantity, the individual will be happy or miserable. This account of the place, which is celebrated all over India, was furnished by people who had been there several times.

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*Memoir on the Province of Lus.*

The small province of Lus is about 100 miles long by 80 broad, and is bounded to the south by the sea, to the north by the Jahlawan hills, and to the east and west by ranges of high mountains, which descend from the great mass occupying Beloochistan, and separate it from Sinde and Mukran. Besides these, which terminate on the sea-coast (one at Rus Moaree, and the other 100 miles further to the westward, near Rus Arubah) there is another spur sent off from the Jahlawan hills, called Jebbal Hahro, which runs down the centre of the province nearly to the coast, and divides it into two unequal portions. These three ranges are all of the same formation, principally coarse sandstone, and of the same average altitude, each being about 3000 feet high.

The climate of Lus is subject to considerable variation; in the winter season it is delightful, the atmosphere being clear, dry, and cool, but in the summer months it is as disagreeable from the excessive heat. During my journey to Beylah, in the month of January, the thermometer stood at 35° for three mornings running, and it did not rise higher than 67° even in the hottest part of the day. Situated just without the limits of the south west monsoon, and nearly encircled by high mountains, which not only reflect the sun's rays, but exclude the wind, the heat in the summer season is intense; and although the atmosphere is occasionally cooled by refreshing showers, it is severely felt by the inhabitants.

The western division of the province, lying between the Hahro and Hinglaj mountains, is the smallest and least productive of the two.

The greater part is occupied by a mass of barren hills, with small valleys between them; and the remainder forms a level sandy district near the sea, which in most places is barren and almost destitute of inhabitants.

The eastern division of the province is watered by the Poorally and its numerous tributaries, and the only productive part of it is the valley or plain through which that river takes its course. From the sea to the Jahlawan hills it measures about sixty-five miles in length, and in width decreases gradually from thirty-five miles; its breadth on the coast as you approach its upper extremity, where it terminates in a semicircle of hills, is eight or nine miles across. With the exception of a belt of low broken hillocks on the sea coast, about eight miles broad, the whole face of the valley is perfectly flat, and it is to this circumstance the province owes its name of *Lus*, and which in the language of the country signifies a level plain. On looking down it from the upper extremity, where the ground rises slightly at the foot of the hills, the horizon appears of a misty blue color, and is as level and well defined as it is at sea: the only elevated spot I saw, was the rising ground on which Beylah is built, and that is not more than ten or twelve feet high. There is a tradition amongst the natives, that at a remote period the valley was an inlet of the sea, and from its extreme flatness, alluvial formation, and small elevation above the level of the ocean, there is reason for believing it was once the case.

The soil is every where alluvial, and is composed of a light loose clay mixed in a greater or less proportion with fine sand; in some places it preserves a hard smooth surface, and contains a portion of saline ingredients, but in others crumbles into fine dust, which is blown in clouds by the lightest breeze, and renders travelling very disagreeable; it is also in many parts encumbered with large rounded stones, and at the head of the valley above Beylah, where there are numerous streams and water courses, they are so thickly strewed over the surface, that the whole plain, from one range of hills to the other, appears like the bed of a large river. Near the coast there is scarcely a tree or a bush to be seen, and the country has a most barren and desolate aspect. A confused mass of undulating hillocks, 80 or 100 feet high, covered to some depth with loose sand and thinly overrun with creeping plants, extends about eight miles inland, and in the small hollows and plains between them, which are so low as to become saturated at high tide by the sea, the land produces nothing but saline shrubs or coarse reeds. Beyond the sand hills the level plains commence, and small patches of stunted tamarisk trees appear here and there; but as you approach Lay-aree, they attain a greater height, and the jungle becomes dense.

From that village to Beylah the face of the country every where presents the same appearance in its general features, and in the vicinity of the different streams a large portion of the land is under cultivation ; but beyond these spots it is either covered with saline bushes or thick tamarisk jungle, and from the poverty of the soil would not yield sufficient to repay the cultivator for his toil in clearing it. In some of the jungles the baubool (*mimosa*) is abundant, and in others the trees are withered and leafless for miles, and there is no sign of vegetation, save in the undergrowth beneath them. About and above Beylah the tamarisk and baubool almost entirely disappear, and are succeeded by a tree which from a short distance appears like a species of willow, and is so high and bushy, that at those places where it abounds it forms thick and extensive woods ; game is every where plentiful, but particularly so on the eastern side of the valley ; herds of antelopes and spotted deer are frequently seen in the open country, and the wild hog is sometimes found in the thickets ; the jungles are full of hares and partridges, and the lakes and swamps swarm with water fowl of every description.

On the banks of the Poorally and its tributary streams a large portion of the land is under cultivation ; and this is also the case along the eastern side of the valley, where there are several small lakes left by the waters of the inundation : at these spots the soil is a rich mould, and yields abundant crops of wheat, jowaree, oil seed, cotton, and esculent vegetables. In the dry season most of the fields are irrigated by cuts from the rivers, but some depend entirely upon the rains for a supply of water ;—on the former a tax is levied of one-third, and on the latter of one-fifth of the produce.

The principal river of Lus is the Poorally, which rises to the northward amongst the Jahlawan mountains, and issues upon the valley through a deep ravine about nine miles to the N. W. of Beylah ; on leaving the hills it flows in several rivulets along a bed 300 yards wide, but near Beylah it increases to nearly a mile in breadth, and the water spreading over a large extent of ground forms a succession of swamps ; amongst these there are many small springs, and part of the land is turned to account in the cultivation of rice. Above Beylah the plain up to the foot of the hills is every where deeply scored with the beds of rivulets and water courses, but they are only filled during the inundation months, and then empty themselves into the Poorally. The first tributary stream of any size flows from the mountains to the N. E., and passing close along the elevated ground on which the capital is built, joins the river below the swamps ; opposite the town it is 700 yards broad, and when I crossed

it in the month of January its bed was perfectly dry. From the junction of this stream the river pursues a winding course to the southward, and has an average breadth of 400 yards; at some places however it is much wider, especially at the confluence of the Khato, a large stream descending from the eastern range of mountains, where it is nearly a mile across, and when full, must form a fine sheet of water: here its bed is overrun with jungle, and the stream winds through the centre in two small rivulets, 15 yards broad, and 15 inches deep. The Khato is from three to five hundred yards broad, and is only filled in the rains. Four miles to the N. E. of Layaree the Poorally receives the water of the Hubbe, a river of some size flowing from the eastward, and below the point of junction is confined by a dam or bund, to retain its waters in the dry season for agricultural purposes. From this spot to its mouth *it has no bed*; as the river fills during the rains the bund is swept away, and the water escapes through a level plain covered with bushes, about five miles broad, which it inundates to a depth of two or three feet. This plain is bounded by the sand hills on the coast, and extends in a winding direction to the mouth of the river, which is situated at the head of the harbour of Soonmemy, and only runs four or five miles into the land. The water also finds another outlet through a line of lakes and swamps on the eastern side of the valley, where the ground is very low, and reaches the sea at a large lagoon on the shores of the bay, a few miles below the harbor. Serundo, the largest of the swamps, is several miles in length and very irregular in shape; its width in some places exceeding a mile, and at others contracting to four or five hundred yards. In the dry season, when it has a depth of four or five feet, the water is salt and charged with vegetable matter from the thick mangrove jungle growing along its banks, but during the inundation it is perfectly fresh, and the swamp then assumes the appearance of an extensive lake. Water fowl of all kinds resort to it in incredible numbers, and alligators are almost equally abundant.

The water of the Poorally holds in solution a large quantity of saline ingredients, and every stone in its bed that is at all exposed to the influence of the sun is covered with a thin incrustation. As far as I could judge from the taste it is natron, and the flavor of the water is scarcely affected by it. In the swampy parts of the river near Beylah alligators are numerous, and they are met with here and there throughout its course.

In the whole province there are not more than ten or twelve towns or villages, and the largest of these, Beylah, does not contain more than 5,000 inhabitants; Soonmemy has not half that number, and

Ootul, a town situated on the eastern side of the valley, which ranks next in importance, scarcely a fourth; Layaree, Oot, Momadary, and the others, are small villages of thirty or forty houses each, part built of mud, and the rest of mats, and none have more than 150 or 200 inhabitants. The people generally are scattered over the face of the country, and have no fixed habitations; their huts are erected wherever there is pasturage for their cattle, and being constructed of stakes and reed mats, are easily removed to other spots when the supply of fodder is exhausted. Beylah, the capital, is built upon a rising ground, on the north bank of a small river flowing from the mountains to the north-east, which joins the Poorally about a mile to the westward of the city. It contains about 800 houses built of mud, and a population of about 5000 souls. The palace of the Jam is situated in the north-east quarter, and this part of it is surrounded by a mud wall of no great strength; which is the only defence of the place.

The productions of Lus, are grain, (chiefly wheat, and jowaree) oil seed, a kind of gram called gogur, and cotton; ghee is made in large quantities, and sent to Kurachee or Soonmemy for exportation, and the flocks furnish a small supply of wool:—cotton cloth, with the coarse woollen dresses worn by the peasantry, and coarse carpets made at Beylah, are the only articles manufactured in the country.

It is difficult to form an estimate of the amount of the population, from the people being so much scattered over the face of the country, but I do not think it exceeds 25,000 souls. It is composed principally of Noomrees, descendants from the ancient Summa and Soonvia Rajpoots, whose chiefs formerly ruled in Sinde, and who are divided into seven tribes—the Jamootry, Arab Gudoor, Shooroo, Boorah, Shukh, Warah, and Mungayah. The Arab Gudoor is said to be a branch from the celebrated Arab tribe the Koreish, and to have settled in Lus in the reign of the third caliph Omar. That the family of Arab Oosmanany, the chief, is from an Arab stock is evident, for in him and all his relatives the Arab form and features are strongly marked, but the resemblance is not visible in the tribe generally; and it is no doubt of Noomree origin. The Jokeeas, and Jukreeas, who are also Noomrees, and inhabit the mountainous country to the eastward, were also formerly subject to the chief of Lus; but when Kurachee was taken by the Scindians they threw off their allegiance, and have ever since acknowledged the authority of the Ameers. Besides Noomrees there are also many Hindoos, and a large number of African slaves: the latter perform all the work. The chiefs and a few of their military followers are robust, and good looking men, but the Noomrees generally possess few of those qualities, either physical or moral, which would entitle them to

be considered a fine race. Amongst the lower orders mixture of the different castes and tribes is observable, and a large number exhibit marks in their features of their African descent. In appearance and bodily strength the men are inferior to the inhabitants of most Asiatic countries, and they are ignorant, indolent, and superstitious. The women possess few personal charms even when young, and are remarkable for their bold and licentious manners. The dress of both sexes is much the same as it is in Sinde, and there is in fact a marked resemblance, both in character and appearance, between the people of the two countries.

Jam Meer Mahomed, the chief of Lus, is about fourteen years of age, and does not at present take any part in the government of the province, which is conducted by Ularacky, the chief of the Jamootry, under the direction of his mother. Jam Deenah, his cousin, is the only male relative he has; he is about forty years of age, and much liked by the people for the kindness and generosity of his disposition. The Jam's sister was married some years ago to Meer Sobdar, one of the Sinde Ameers, and it is settled that when he is of age he is to espouse one of that prince's sisters in return. He has also a half sister in the harem of Meerab Khan, the Kelat prince, and another married to the chief of the Jokeas. The mother of these two girls resides at Soonmemy and is in such a destitute condition that she has lately been obliged to sell her clothes and jewels to obtain the necessaries of life.

The Jam is not independent, but like all the Brahooy chiefs, holds his dominions under the feudatory tenure of furnishing a certain number of troops when required for the service of his lord paramount, the sovereign of Kelat. The Jam's father was formerly obliged to send him a portion of the duties collected in his territories as a yearly tribute, but after his marriage with one of the prince's daughters, this was no longer demanded. At present the Jam is kept in complete subjection, for his small state is every where exposed to the attacks of the Brahooy tribes, who if commanded by the Kelat chief would quickly overrun it; and he would not in consequence dare to disobey any order from that prince, or act in any business of importance without his sanction. The number of troops he is expected to bring into the field in time of war was fixed at 4500; but at present the whole military force of the province does not exceed 2700 men, which are furnished by the different tribes in the following proportion :

Jamootry, .. .. .	600
Arab Gudoor, .. .. .	600
Shooroo, .. .. .	200
Boorah, .. .. .	300
Shukh, .. .. .	100
Warah, .. .. .	100
Mungayah,.. .. .	300
Brahoceys,.. .. .	500

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Total, .. 2,700

Since the death of the Jam's father, who expired about eight years ago, the revenues of the province have decreased considerably, and do not now amount to more than 35,000 Rupees annually. They are derived from a duty of three per cent. levied on all imports and exports, and a bazar toll of one per cent. collected at the towns they have to pass through on the road to Beylah. There is also a land tax of one-third the produce on all grounds irrigated from the rivers, and one-fifth on those which depend solely upon the rain for a supply of water. Last year the revenue collected at the different towns was as follows :

At Soonmemy, .. .. .	Rupees, 12,000
At Layaree, .. .. .	2,000
At Ootul, .. .. .	3,000
At Beylah, .. .. .	9,000
At Oomarah, .. .. .	1,000
Land tax, .. .. .	8,000

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Total, .. 35,000

Soonmemy is the principal sea-port of Lus, and for such a miserable looking place possesses considerable trade. The town generally called Meany by the natives is mean and dirty, and does not contain more than 500 houses ; they are built of sticks and mud, and have a small turret rising above the roof open to the sea breeze, without which they would scarcely be habitable in the summer months, on account of the excessive heat ; formerly the town was surrounded by a mud wall, but as no pains were taken to keep it in repair it gradually fell to decay, and now scarcely a vestige of it remains. It contains a population of about 2,000 souls, most of whom are employed in fishing, and are extremely poor, and there are besides a few Hindoos who have the whole trade of the place in their hands. At Meany the water is extremely bad. I examined all the wells in the neighbourhood, and caused others to be dug in the most promising spots, but it was so brackish that it was not drinkable, and I was obliged to send to

Kurachee for a supply for the vessels. The harbour, which has been formed by the Poorally river, is a large irregular inlet spreading out like that at Kurachee in extensive swamps, and choked with shoals; the channel leading into it is extremely narrow, and has a depth of sixteen or seventeen feet at high water in the shallowest part, but it shifts its position every year, and vessels of any size could not navigate it without great difficulty, until it had been buoyed off inside. There is six or seven and even ten fathoms in some places, but towards the town the channels become shallow, and the trading boats cannot approach it nearer than a mile; at the spot where they anchor they are always aground at low water. During the south-west monsoon the harbour cannot be entered, for the bar at the entrance is exposed to the whole force of the swell, and the breakers on it are heavy. There is another small sea-port belonging to Lus, situated on the western side of the Hinglaj mountains, at Ras Ambah, it is called Ournarh, and is the place to which the productions of the western division of the province are sent for exportation.

The total value of the trade of Lus does not exceed five lacs of rupees; the imports are—from Bombay, cloths, silks, iron, tin, steel, copper, pepper, sugar, and spices; the Persian Gulf, dates and slaves; and from Sindé, a small quantity of coarse cotton cloth. The greater part of the articles brought from Bombay are sent to Kelat, for although highly prized in Lus the people are too poor to purchase them, and they receive in return wool, of which 800 candys arrived in the course of last year, and different kinds of dried fruits. The exports, are—grain (principally wheat and jowaree) ghee, wool, oil seed, and a quantity of gum; a duty of three per cent. is levied on all imports and exports, which may be paid either at Soonmemy or Beylah, and a bazar toll of one per cent. at Layaree and Ootul, two towns on the road.

Most of the articles imported from Bombay are sent to Kelat, and from that city distributed throughout Beloochistan; the quantity is very small for the supply of such an extensive kingdom, and is not likely to become greater until the Kelat prince takes measures to prevent the caravans from being plundered in their route from Beylah to his capital. The intermediate districts are inhabited by various Brahoocy tribes, such as the Mingulls, Bezinyas, &c. and to each of the chiefs, the merchant has to pay from one to four rupees for the camel load, as may be determined at the time; their followers also frequently pillage the caravans. Meerab Khan, the Kelat prince, has no doubt the power to repress these outrages, and he would certainly interfere to prevent them, if the advantages that would accrue to



himself from the increase of the trade, were pointed out in a favorable manner. All the merchants of Lus are of opinion, that the commerce would be considerably enlarged if security were afforded to the trader, and of this there can be little doubt, for cloth and other articles of European manufacture are in great request throughout Beloochistan, and the supply is not at present adequate to the demand.

Formerly the commerce of Lus was much more valuable than it is at present, and a large portion was sent by the Kelat route to the northern provinces of Hindoostan; within the last forty years it has from various causes gradually declined. In 1808 Soonmemy was taken, and plundered by the Joasmy pirates, and for some years the merchants were afraid to send goods there; the port was just beginning to recover from this blow, when the Ameers of Sinde issued strict orders to the merchants of Kurachee to discontinue their practice of importing goods to any of the ports of Lus under the severest penalties, and this measure, which at once took away half the trade of the place, completed what the pirates had begun. In the meantime the trade with the northern provinces had ceased entirely, for they had become so unsettled that the Patan merchants, who are the great carriers in that part of the world, ceased to come to Kelat for goods, and as they afterwards found the route from Upper Sinde much the safest, they resorted to it in preference, and have since obtained the small supply of goods they require from the merchants of that kingdom. Before the trade of Lus had suffered from the causes above mentioned, its value is said to have been five times greater than it is at present, and it was also much more lucrative to the merchant, for at that period goods of European manufacture sold for double the price that is now obtained for them.

T. G. CARLOSS,

1st February, 1838.

Lieutenant, Indian Navy.

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ART. III.—On three new species of Musk (*Moschus*) inhabiting the Hemälayan districts.

*To the Editor of the Journal, Asiatic Society.*

SIR,—Several years ago I called the attention of Dr. Abel to some remarkable, and apparently permanent distinctions of colour characterising the Musks, or Musk Deer of the Cis and Trans Hemälayan regions. These I subsequently inserted in my amended catalogue of *Mammalia*, under the specific names of *Leucogaster*, *Chrysogaster*, and *Saturatus*, but without giving specific characters, owing to my conti-

nued inability to establish the species upon a more solid basis than that of distinction of colour. The partial investigations which I have been enabled to make, strongly favour, however, the supposition that the superficial diagnostics are supported by others of more importance in the form of the crania, and in the structure and position of the musk pod. And, though I am still unable distinctly to expound these latter differences, I think it may stimulate curiosity to indicate summarily the three presumed species as marked by their diversities of colour, in the hope that attention may be thence drawn to the structural peculiarities which I believe to exist in the skulls, and in the musk bags.

1st. Species, *Moschus chrysogaster, nobis*. Bright sepia brown sprinkled with golden red; orbital region, lining, and base of ears, whole body below, and insides of the limbs, rich golden red or orange; a black-brown patch on the buttocks posteaally; limbs below their central flexures fulvescent.

2nd. Species, *Leucogaster, nobis*. Body above, and the limbs deeper brown sprinkled with fulvous: below the head, neck, and belly, together with the insides of the ears, and the orbits, hoary white.

3rd. Species, *Saturatus, nobis*. Throughout saturate dusky brown, somewhat paler below: chin only, and lining of the ears pale and hoary.

Drawings of the above animals were transmitted to London, through the Society, in May 1836.

I am Sir, your obedient servant,

B. H. HODGSON.

Nepal, April 15, 1839.

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ART. IV.—On *Isinglass* in *Polynemus sele*, Buch., a species which is very common in the Estuaries of the Ganges. By J. McCLELLAND, Assistant Surgeon.

There are nine species of *Polynemi*, or Paradise fishes, enumerated by authors, and although they are all pretty well described, I am not aware of any more valuable property being known regarding them than their excellence as an article of food, of which we have a familiar instance at this season in the *Pol. paradiseus*, or Mango-fish, *Tupsi Muchi* of the Bengalese.

Buchanan has five species in his work on Gangetic Fishes, but three of these are small, and probably varieties only of the *Tupsi*; two of them however, are of great size, and so common in the estuary of the Hoogly that I have seen numerous hackeries, or bullock carts, conveying them to the Calcutta bazar, during the cold season. They are not

confined to the estuary of the Hoogly, but probably extend to all the estuaries of the Ganges, as Buchanan says they do; and we know that Dr. Russell also describes two large species in his work, long since published, on the fishes of the Madras Coast.

The very valuable production, *Isinglass*, having been recently found to be yielded by one of the fishes of the Hoogly by a writer in Parbury's *Oriental Herald*, it became an interesting object to determine the systematic name of the fish affording an article so valuable, and to learn as much as possible regarding its habits. Having procured a specimen of this fish from the bazar, I was surprised to find it to be a *Polyneinus*, or Paradise fish, although the writer alluded to described it as resembling a Shark. My surprise was not that a person unacquainted with fishes should compare it to a Shark, or to any thing else, but that a nearly allied species to the Mango-fish should contain a natatory vessel of such size and value, while that organ is quite absent in the Mango-fish itself, though a general character of nearly all others.

I had come to the determination never to describe single or detached species of fish, but as the object of this paper is to elucidate the commercial side of a question already before the public, I shall not pretend to offer any remarks on the scientific part of the subject, which is indeed beyond my province, as my observations have hitherto been confined to the fresh water species of India.

The species affording the *Isinglass* is the *Polyneinus sele*, Buch.; *Sele*, or *Sulea*, of the Bengalese, described, but not figured, in the *Gangetic Fishes*; but if Buchanan's drawings had not been placed under a bushel since 1815, probably this useful discovery would have been sooner made, and better understood by the writer in Parbury's *Oriental Herald*, to whom we are indebted for it.

The annexed figure from Buchanan's unpublished collection at the Botanic Garden, conveys an excellent representation, about half size, of a specimen from which I obtained 66 grains of *Isinglass*: but as the writer in Parbury's *Oriental Herald* states that from half a pound to three quarters of a pound is obtained from each fish, we may suppose either that *P. sele* attains a much greater size than 24 pounds, the limit given to it by Buchanan, or, that the *Isinglass* is also afforded by a far larger species, namely *Polyneinus teria*, Buch. or *Teria bhangon* of the Bengalese, *Maga jellee* of Russell, which Buchanan was informed sometimes equals three hundred and twenty pounds avoirdupois, and which I frequently have seen of an uniform size, that must have been from fifty to an hundred pounds at least, loading whole cavalcades of hackeries at once on their way to the Calcutta bazar, as I have already stated, during the cold season, when they would consequently seem to be very common.

Although the sound, or natatory vessel is the part of the fish that would afford the principal inducement to form fisheries, one of the obligations that speculators should be obliged to enter into with the Government is, to cure all parts of such fishes as might be taken for their sound. Considering the scarcity of fish in many parts of India, and the great, I may say unlimited demand for it in some parts of the country even when badly preserved, as well as the excellence of the flesh of all the *Polynemi*, the curing of these fishes might prove no less profitable to the parties themselves, than it would unquestionably be to the country. I was happy to find the attention of the Royal Asiatic Society directed to the subject of curing fishes in India by Dr. Cantor, (vide Proceedings, 21st April, 1838) but a something was then wanting to be known in order to give a direct inducement to the undertaking.\* I therefore regard the discovery of the *Ichthyocolla* of commerce in one of the larger *Polynemi* of India as a circumstance eminently calculated to direct attention to a promising and almost unlooked for source of enterprise. We first of all require to know whether more *Polynemi* than one afford it, and to be fully acquainted with the habits and the methods already employed for taking such as do. *Polynemus sele*, Buch. is the species I examined and found to contain it; but this species is supposed to be a variety only of *Polynemus lineatus*, which is very common on all the shores to the eastward; it therefore becomes a question of some importance to determine whether *P. lineatus* yields the same valuable article, and if it

\* Should Dr. Cantor still be in London, I would recommend those who may be interested in the important question of Isinglass to consult him, as no one is so competent to afford information regarding the fish by which that article is yielded in India. He will, I am confident, on a re-examination of his notes regarding the *Polynemi*, readily distinguish those with large sounds, and be able to afford more valuable information regarding their habits, and the quantities in which they are procurable, than could be expected from any one who had not devoted his thoughts to the subject, during a survey of the place in which these fishes occur. I am not sure that the species of *Polynemus* Dr. Cantor particularly refers to in his paper as the *Salliah*, or *Saccolih*, is not the very fish that affords Isinglass; if so, it appears to be considered by Dr. Cantor as a new species, and his notes will probably afford all that it is essential to know regarding its habits. Thus, as Sir J. E. Smith somewhere observed, "the naturalist who describes a new species, however trifling it may seem, knows not what benefit that species may yet confer on mankind."

In an interesting account of Kurachee by Lieut. Carlross, read at the last anniversary Meeting of the Bombay Geographical Society, cod sounds and shark's fins are mentioned among the exports from that place, and fishing is said to be carried on to a considerable extent along the coast of Sindé. As however the Cod, *Morrhua vulgaris*, Cuv., is quite unknown in the Indian Seas, the species from which the sounds alluded to by Lieut. Carlross are taken are no doubt *Polynemi*, the larger species of which are sometimes called by the English, Rock-Cod. It will be curious to learn if the Chinese have monopolised this trade on the coast of Sindé as well as in the Hoogly.

be really common to the eastward; if so, it seems strange that the Chinese should send for it to the Hoogly. Next, do the *Pol. Emoï* and *Pol. plebeius*, supposed by Buchanan to correspond with his *Sele*, contain the same valuable substance? and do either of Russell's species, namely, the *Maga booshee* and *Maga jellee*, (Indian Fishes, 183, 184,) yield it? These are questions easily determined along our coasts by merely opening such fish as correspond with the one here figured, and ascertaining whether they contain an air vessel or not, and whether that vessel if present be large or small. Mergui, Batavia, Singapore, Tranquebar, Madras, and Bombay are points at which observations might be made. This question may be so easily ascertained, that it is hardly worth forming a conjecture about it; but if any of the species common to the coasts of the Eastern seas possessed so valuable a property, the chances are that it would have been long since discovered. It is therefore probable that the large gelatine sound will be found to be peculiar to *Pol. sele*, and perhaps *Pol. teria*,\* Buch. both of which seem to resort chiefly to the Gangetic estuaries at certain seasons, particularly during the North-east monsoon, when it is easy to imagine that the shelter afforded in those estuaries at that season, might account for many peculiarities which their ichthyology appears to present, compared with that of open coasts. It is during the cold season that the two gigantic fishes above mentioned appear to be caught in most abundance, a circumstance the more favourable to any improved operations that might be resorted to with a view to convert them to useful purposes. Whether both contain the same valuable substance, I am unable to say, having as yet only examined *P. sele*.

#### GEN.—POLYNEMUS.

Two fins on the back, with long filaments attached to the sides in front of the pectoral fins. Opercula covered with scales; preoperculum serrated behind. Example. The common Mango-fish of Bengal.

#### YIELDING ISINGLASS.

*P. Sele*, Buch. Plate —

*Sele*, or *Sulea* of the Bengalese.

Five filaments, the first reaching from the front of the pectorals to midway between those fins and the anal, the other filaments progressively shorter; no streaks on the sides, lateral line deflected on the lower lobe of the caudal fin. The fin rays are as follows;—first dorsal seven, second dorsal fourteen, pectorals thirteen in each, ventrals each six, anal twelve or thirteen, caudal twenty (?) The teeth are very fine, continuous below round the edes of the jaws, but interrupted at the

\* *P. quadrifilis*, Cuv. *P. tetradoctylus*, &c. and probably refer to the same.





anterior part of the upper jaw, behind which a small detached group of palatine teeth are placed on the vomer.

The liver consists of an elongated left lobe and a short right one, under which the gall bladder is situated. The stomach is a short muscular cul-de-sac, both orifices of which being placed at the anterior extremity, from which numerous small *cecæ* are given off, the intestine extends straight to the vent; in all these respects it corresponds nearly with *P. paradiseus*. The air vessel, which is quite absent in the latter, and on which the peculiar value of this species seems to depend, is a large spindle-shaped organ about half the length of the fish, thick in the middle and tapering toward the extremities, where it ends in front by two, and behind by a single tendinous cord; similar small tendinous attachments, about twenty-two in number, connect it on either side to the upper and lateral parts of the abdominal cavity. This organ, which is called the sound, is to be removed, opened, and stripped of a thin vascular membrane which covers it both within and without, washed perhaps with lime water and exposed to the sun, when it will soon become dry and hard; it may require some further preparation to deprive it of its fishy smell, after which it may be drawn into shreds for the purpose of rendering it the more easily soluble. The fish which I examined weighed about two pounds and yielded about sixty-five grains of Isinglass, not quite pure, but containing about 10 per cent. of albuminous matter, owing perhaps to the individual from which it was taken being young and out of season, and not above a tenth part of the ordinary size of the species. But the solution after having been strained appeared to be equal to that of the best Isinglass, which costs in Calcutta from twelve to sixteen rupees a pound. As the subject thus seemed to be of consequence, I gave a portion of the substance in question to Dr. O'Shaughnessy for its chemical examination.

- a. Breadth of the back,
- b. Scale magnified,
- c. Scale from lateral line magnified,
- d. Air vessel or sound natural size.

Calcutta, 3rd May, 1839.

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ART. V.—*Journal of the Mission which visited Bootan, in 1837-38, under Captain R. BOILEAU PEMBERTON. By W. GRIFFITH, Esq. Madras Medical Establishment.\**

The Mission left Gowahatti on the 21st December, and proceeded a few miles down the Burrumpootur to Amcengoung, where it halted.

On the following day it proceeded to Hayoo, a distance of thirteen miles. The road, for the most part, passed through extensive grassy plains, diversified here and there with low rather barren hills, and varied in many places by cultivation, especially of *sursoo*. One river was forded, and several villages passed.

Hayoo is a picturesque place, and one of considerable local note; it boasts of a large establishment of priests, with their usual companions, dancing girls, whose qualifications are celebrated throughout all Lower Assam. These rather paradoxical ministers are attached to a temple, which is by the Booteas and Kampas considered very sacred, and to which both these tribes, but especially the latter, resort annually in large numbers. This pilgrimage, however, is more connected with trading than religion, for a fair is held at the same time. Coarse woollen cloths and rock salt form the bulk of the loads which each pilgrim carries, no doubt as much for the sake of profit as of penance. The village is a large one, and situated close to some low hills; it has the usual Bengal appearance the houses being surrounded by trees, such as betel palms, peepul, banyan, and caoutchouc. To Nalbharce we found the distance to be nearly seventeen miles. The country throughout the first part of the march was uncultivated, and entirely occupied by the usual coarse grasses; the remainder was one sheet of paddy cultivation, interrupted only by topes of bamboos, in which the villages are entirely concealed; we found these very abundant, but small: betel palms continued very frequent, and each garden or enclosure was surrounded by a small species of screw pine, well adapted for making fences.

Four or five streams were crossed, of which two were not fordable: jheels were very abundant, and well stocked with water fowl and waders. At this place there is a small bungalow for the accommodation of the civil officer during his annual visit; it is situated close to a rather broad but shallow river. There is likewise a bund road.

We proceeded from this place to Dum-Dumma, which is on the Bootan boundary, and is distant ten miles from Nalbharce. We continued through a very open country, but generally less cultivated than

\* Presented by the Government.

that about Nalbharee; villages continued numerous as far as Dum-Dumma. This is a small straggling place on the banks of a small stream, the Noa Nuddee; we were detained in it for several days, and had the Booteas alone been consulted, we should never have left it to enter Bootan in this direction. The place I found to be very uninteresting.

*December 31st.* We left for Hazareegoung, an Assamese village within the Bootan boundary.

We passed through a much less cultivated country, the face of which was overrun with coarse grassy vegetation. No attempts appeared to be made to keep the paths clean, and the farther we penetrated within the boundary, the more marked were the effects of bad government. We crossed a small and rapid stream, with a pebbly bed, the first indication of approaching the Hills we had as yet met with. The village is of small extent, and provided with a Nam-ghur in which we were accommodated: it is situated on comparatively high ground, the plain rising near it, and continuing to do so very gradually until the base of the Hills is reached. There is scarcely any cultivation about the place.

We left on January 2d for Ghoorgoung, a small village eight miles from Hazareegoung; similar high plains and grassy tracts, almost unvaried by any cultivation, were crossed; a short distance from the village we crossed the Mutanga, a river of some size and great violence during the rains, but in January reduced to a dry bouldery bed. There is no cultivation about Ghoorgoung, which is close to the Hills, between which and the village there is a gentle slope covered with fine sward.

We entered the Hills on the 3d, and marched to Dewangari, a distance of eight miles. On starting we proceeded to the Durunga Nuddee, which makes its exit from the Hills about one mile to the west of Ghoorgoung, and then entered the Hills by ascending its bed, and we continued doing so for some time, until in fact we came to the foot of the steep ascent that led us to Dewangari. The road was a good deal obstructed by boulders, but the torrent contains at this season very little water.

The mountains forming the sides of the ravine are very steep, in many cases precipitous, but not of any great height. They are generally well wooded, but never to such a degree as occurs on most other portions of the mountainous barriers of Assam. At the height of about 1000 feet we passed a choky, occupied by a few Booteas, and this was the only sign of habitation that occurred.

We were lodged in a temporary hut of large size, some 200 feet below the ridge on which Dewangari is situated; our access to that

place being prohibited, as the Booteas, although long before informed of our approach and intentions, were not quite certain of our designs.

On the following day, after some fuss, we were allowed to ascend to the village, in which a pukka house had been appropriated for our accommodation.

Dewangari, the temples of which are visible from the plains of Assam, is situated on a ridge, elevated about 2100 feet above the level of the sea, and 1950 above that of the plains. The village extends some distance along the ridge, as well as a little way down its northern face. The houses, which are in most cases mere huts, amount to about 100; they are distributed in three or four scattered groups; amongst these a few pukka or stone-built houses of the ordinary size and construction occur; the only decent one being that occupied by the Soobah, who is of inferior rank.

Along the ridge three or four temples of the ordinary Boodhistical form occur; they are surrounded with banners bearing inscriptions, fixed longitudinally to bamboos. Attached to some of these temples are monumental walls of poor construction, the faces of which bear slabs of slate, on which sacred sentences are well carved.\*

The village abounds in filth. The centre of the ridge is kept as a sort of arena for manly exercises; about this space there occur some picturesque simool trees, and a few fig trees, among which is the banyan.

There is no water course or spring near the village; the supply is brought from a considerable distance by aqueducts formed of the hollowed-out trunks of small trees. In one place this aqueduct is carried across a slip, but otherwise there is nothing tending to shew that difficulties existed, or that much skill would have been exerted had such really occurred.

During our long stay at this place we had many opportunities of forming acquaintance with the Soobah, as well as with the immediately adjoining part of his district. We found this almost uncultivated, and overran with jungle. No large paths were seen to point out that there are many villages near Dewangari; in fact the only two which bear marks of frequent communication, are that by which we ascended, and one which runs eastward to a picturesque village about half a mile distant, and which also leads to the plains.

The Soobah we found to be a gentlemanly unassuming man; he received us in a very friendly manner and with some state; the room

\* Both to the east and west of Dewangari there is a picturesque religious edifice, with ornamented windows. Their effect is much heightened by the presence of the weeping Cypress, which situated as it was here, gave me an idea of extreme beauty.

was decently ornamented, and set off in particular by some well executed Chinese religious figures, the chief of which we were told represented the Dhurma Rajah, whose presence even as a carved block was supposed to give infallibility. We were besides regaled with blasts of music. His house was the most picturesque one that I saw, and had some resemblance, particularly at a distance, to the representations of some Swiss cottages. It was comparatively small, but as he was of inferior rank, his house was of inferior size.

The Soobah soon returned our visit, and in all his actions evinced friendship, and gentlemanly feeling; and we soon had reason to find that among his superiors at least we were not likely to meet with his like again. His followers were not numerous, nor, with the exception of one or two who had dresses of scarlet broad-cloth, were they clothed better than ordinarily.

The population of the place must be considerable; it was during our stay much increased by the Kampa people, who were assembling here prior to proceeding to Hazoo. Most of the inhabitants are pure Booteas; many of them were fine specimens of human build, certainly the finest I saw in Bootan: they were, strange to say, in all cases civil and obliging.

Cattle were tolerably abundant, and principally of that species known in Assam by the name of *Mithans*; they were taken tolerable care of, and picketed in the village at night: some, and particularly the bulls, were very fine, and very gentle. Ponies and mules were not uncommon, but not of extraordinary merits. Pigs and fowls were abundant.

The chief communication with the plains is carried on by their Assamese subjects, who are almost entirely Kucharees: they bring up rice and putrid dried fish, and return with bundles of manjistha.

On the 23rd, after taking a farewell of the Soobah, who gave us the Dhurma's blessing, and as usual decorated us with scarfs, we left for Rydang, the halting house between Dewangari and Kegumpa, and distant eight miles from the former place. We reached it late in the evening, as we did not start until after noon. We first descended to the Deo-Nuddee, which is 800 or 900 feet below the village, and which runs at the bottom of the ravine, of which the Dewangari ridge forms the southern side, and we continued ascending its bed, almost entirely throughout the march.

The river is of moderate size, scarcely fordable however in the rains; it abounds with the fish known to the Assamese by the name of Bookhar, and which are found throughout the mountain streams of the boundaries of the province. They, like all others, are considered

sacred, although after the first distrust had worn off, the Soobah did not object to my fishing. We passed a Sam Gooroo\* engaged in building a wooden bridge; he was the only instance I met with of a Bootea priest making himself useful. He inquired of Capt. Pemberton, with much condescension, of the welfare of the 'Goombhañee' and his lordship the Governor General.

24th. Left for Khegumpa. The march was almost entirely an uninterrupted ascent, at least until we had reached 7000 feet, so that the actual height ascended amounted nearly to 5000 feet. It commenced at first over sparingly wooded grassy hills, until an elevation of about 4000 feet was attained, when the vegetation commenced to change; rhododendrons, and some other plants of the same natural family making their appearance. Having reached the elevation of 7000 feet by steep and rugged paths, we continued along ridges well clothed with trees, literally covered with pendulous mosses and lichens, the whole vegetation being extra tropical. At one time we wound round a huge eminence, the bluff and bare head of which towered several hundred feet above us, by a narrow rocky path or ledge overhanging deep precipices; and thence we proceeded nearly at the same level along beautiful paths, through fine oak woods, until we reached Khegumpa. The distance to which, although only eleven miles, took us the whole day to perform.

This march was a beautiful, as well as an interesting one, owing to the changes that occurred in the vegetation. It was likewise so varied, that although at a most unfavourable season of the year, I gathered no fewer than 130 species in flower or fruit. Rhododendrons of other species than that previously mentioned, oaks, chesnuts, maples, violets, primroses, &c., &c. occurred. We did not pass any villages, nor did we meet with any signs of habitation, excepting a few pilgrims proceeding to Hazoo.

Khegumpa itself is a small village on an exposed site; it does not contain more than twelve houses, and the only large one, which as usual belonged to a Sam Gooroo, appeared to be in a ruinous state. The elevation is nearly 7000 feet. The whole place bore a wintery aspect, the vegetation being entirely northern, and almost all the trees having lost their leaves. The cold was considerable, although the thermometer did not fall below 46°. The scarlet tree rhododendron was common, and the first fir tree occurred in the form of a solitary specimen of *Pinus excelsa*. In the small gardens attached to some of the

\* So are they called from their peculiar sanctity. *Sam* is a priest, and *Gooroo* also a priest; each priest is therefore twice a priest.]

houses I remarked vestiges of the cultivation of tobacco and Probosa.\* In the vallies however surrounding this place there seemed to be a good deal of cultivation, of what nature distance prevented me from ascertaining.

25th. Left for Sasce. We commenced by descending gradually until we had passed through a forest of oaks, resembling much our well known English oak; then the descent became steep, and continued so for sometime; we then commenced winding round spurs clothed with humid and sub-tropical vegetation; continuing at the same elevation we subsequently came on dry open ridges, covered with rhododendrons. The descent recommenced on our reaching a small temple, about which the long leaved fir was plentiful, and continued without interruption until we reached a small torrent. Crossing this, we again ascended slightly to descend to the Dimree river, one of considerable size, but fordable. The ascent recommenced immediately, and continued uninterruptedly at first through tropical vegetation, then through open rhododendron and fir woods, until we came close upon Sasce, to which place we descended very slightly. This march occupied us the whole day. After leaving the neighbourhood of Khegumpa we saw no signs of cultivation; the country, except in some places, was arid; coarse grasses, long leaved firs, and rhododendrons forming the predominating vegetation. We halted at Sasce, which is a ruined village, until the 28th. The little cultivation that exists about it is of barley, buckwheat, and hemp.

28th. We commenced our march by descending steeply and uninterruptedly to the bed of the Geeri, a small torrent, along which we found the vegetation to be tropical; ascending thence about 500 feet, we descended again to the torrent, up the bed of which we proceeded for perhaps a mile; the ascent then again commenced, and continued until we reached Bulphai. The path was generally narrow, running over the flank of a mountain whose surface was much decomposed; it was of such a nature that a slip of any sort would in many places have precipitated one several hundred feet. The face of the country was very barren, the trees consisting chiefly of firs and rhododendrons, both generally in a stunted state. We reached Bulphai late in the evening; and the latter part of the march was very uncomfortable owing to the cutting severity of the wind. The vegetation was not interesting until we came on a level with Bulphai, when we came on oaks and some other very northern plants. We were well accommodated in this village, which is a very small one, situated in a somewhat

\* *Eleusine coracana.*

sheltered place, and elevated to 6800 feet above the sea. The surrounding mountains are very barren on their southern faces, while on the northern, or sheltered side, very fine oak woods occur. The houses were of a better order than those at Sasee, and altogether superior to those of Khegumpa. They are covered in with split bamboos, which are secured by rattans, a precaution rendered necessary by the great violence of the winds, which at this season blow from the south or south-east. Bulphai is a bitterly cold place in the winter, and there is scarcely any mode of escaping from its searching winds. The vegetation is altogether northern, the woods consisting principally of a picturesque oak, scarcely ever found under an elevation of 6000 feet. There is one small patch of cultivation, thinly occupied by abortive turnips or radishes, and miserable barley. It was at this place that we first heard the very peculiar crow of true Bootan cocks, most of which are afflicted with enormous corns.

On the 31st we resumed our journey, ascending at first a ridge to the N. E. of Bulphai, until we reached a pagoda, the elevation of which proved to be nearly 8000 feet; and still above this rose to the height of about 10,000 feet a bold rounded summit, covered with brown and low grass. Skirting this at about the same level as the pagoda, we came on open downs, on which small dells, tenanted by well defined oak woods were scattered. After crossing these downs, which were of inconsiderable extent, we commenced to descend, and continued doing so until we came to Roongdoong. About a third of the way down we passed a village containing about twenty houses, with the usual appendage of Sam Gooroo's residence; and still lower we came upon a picturesque temple, over which a beautiful weeping cypress hung its branches. We likewise passed below this a large temple raised on a square terraced basement. From this the descent is very steep, until a small stream is reached, from which we ascended very slightly to the castle of Roongdoong, in the *loftiest* part of which we took up our quarters. From the time that we descended after crossing the downs, the country had rather an improved aspect, some cultivation being visible here and there. We met a good many Kampas, pilgrims, and one chowry tailed cow, laden with rock salt, which appears to be the most frequent burden.

There was more cultivation about Roongdoong than any other place we had yet seen, although even here it was scanty enough. It would appear that they grow rice in the summer, and barley or wheat during the winter; and this would seem to be the case in all those places of sufficient altitude where the fields were terraced. The elevation of the place is 5175 feet, yet a few orange trees appeared to flourish;

this was the highest elevation at which we saw these trees living. There is a species of *Atriplex*, the *Mooreesa* of the Assamese, likewise cultivated about Roongdoong: the seeds are eaten as well as the leaves, which form a sort of *turkaree*. The ingenuity of the Bootees was well shewn here by the novel expedient of placing stones under the ponies' feet to enable them to get at the contents of the mangers! The ponies appeared tolerably well fed, at least I saw them enjoy one good meal, consisting of wild tares and the heads of Indian corn, which had been previously soaked; besides these luxuries, they were supplied with a slab of rock as a rolling stone or scratch-back. Our host, the Dhoompa, who is appointed by the Deb himself, was an impudent drunken fellow, and presumed amazingly on his low rank. He was one of the most disagreeable and saucy persons we met with in Bootan.

*Feb. 1st.* Our march commenced by descending, gradually at first and then very rapidly, to the Dumree Nuddee; crossing this, which is of small size, at the junction of another torrent, we wound along the face of the mountain forming the right wall of the ravine, ascending very gradually at the same time. We continued thus until we came on the ravine of the Monass, which we followed upwards, the path running about 1000 feet above its bed for about two miles, when we reached Benka. We passed two or three small villages on the right side of the Dumree, and a few others were seen on its left. The country throughout was of a most barren appearance, the vegetation consisting of coarse grasses, stunted shrubs, and an occasional long leaved pine. Benka, or as it is better known Tassgong, is a small place situated on a precipitous spur, 1200 feet below which, on one side, the Monass roars along, and on the other a much smaller torrent. From either side of the village one might leap into eternity: it is elevated 3100 feet above the sea.

We were lodged in a summer house of the Soobah, about half a mile up the torrent, and in which, as it was an open house, and as they kept the best room locked up on the score of its being sacred, we were much incommoded by the furious gusts of wind sweeping as usual up the ravine.

The place itself is the Gibraltar of Bootan, consisting of a large square residence for the Soobah, decorated in the usual manner, of a few poor houses much crowded together, and the defences. These consist of round towers of some height, and a wall which connects the village with the tower; and on the opposite side of the torrent there are other defences of towers and outhouses. All seemed to be in a somewhat ruinous state.



A few days after our arrival we had an interview with the Soobah, on the open spot in front of our residence. On this he had caused to be pitched a small silken pavilion, about half the size of a sipahis' paul. He came in all possible state, with about thirty armed followers, preceded by his state band, which consisted of a shrill clarionet and a guitar, (guiltless of sound) a gong and a bell, ponies, a Tartar dog, gentlemen of the household, priests, all assisted in forming a long string which advanced in single file.

He was polite and obliging, and maintained his rank better than any other of the Soobahs we saw. After the interview, at the end of which presents of decayed plantains, papers of salt, scarfs, and strips of coarse blanket were returned, we were treated with music and dancing women, who only differed from their compeers of India in being elderly, ugly, very dirty, and poorly dressed. The spectators were then seated on the ground and regaled with rice and chong.

On his departure the noise far exceeded that attending on his advent. Shrieks and outcries rent the air, the musketoons made fearful report, and, in fact, every one of the followers, of sufficiently low rank, made as much noise as he could. The most curious parts of the ceremony were,—the manner in which they shuffled the Soobah off and on his pony; the mode in which the ponies' tails were tied up; and the petition of the head of the priests for at least one rupee.

It was here that we first heard of the deposition of the old Deb, and the consequent disturbances.

*Feb. 5th.* Punctually on the day appointed by the Soobah did we leave this place, and descended by a precipitous path to the Monass, which we crossed by a suspension bridge, the best and largest, I suspect, in Bootan. The bed of this river, which is of large size (the banks which are mostly precipitous being sixty or seventy yards asunder) and of great violence is 1300 feet below Benka. We then commenced ascending very gradually, following up the north side of the ravine, until we reached Nulka: the march was a very short one. The country was perhaps still more barren than any we had hitherto seen, scarcely any vegetation but coarse grasses occurring. Near Nulka the long leaved pine recommenced. We passed two miserable villages scarcely exceeded by Nulka, in which we took up our abode. No cultivation was to be seen, with the exception of a small field of rice below Nulka.

*Feb. 6th.* We descended to the Monass, above which Nulka is situated 6 or 700 feet, and continued along its right bank for a considerable time, passing here and there some very romantic spots, and one or two very precipitous places. On reaching a large torrent, the Koollong,

we left the Monass, and ascended the former for a short distance, when we crossed it by a wooden bridge. The remainder of the march consisted of an uninterrupted ascent up a most barren mountain, until we reached Kumna, a small and half-ruined village, 4300 feet above the sea.

Little of interest occurred: we passed a small village consisting of two or three houses and a religious building, and two decent patches of rice cultivation. The vegetation throughout was almost tropical, with the exception of the long leaved fir, which descends frequently as low as 1800 or 2000 feet. I observed two wretched bits of cotton cultivation along the Monass, and some of an edible *Labiata*, one of the numerous makeshifts ordinarily met with among Hill people.

*Feb. 7th.* Left for Phullung. We ascended at first a few hundred feet, and then continued winding along at a great height, above the Koollong torrent, whose course we followed, ascending gradually at the same time, until we reached our halting place. As high as 5000 feet the Kumna mountain retained its very barren appearance; at that elevation stunted oaks and rhododendrons commenced, and at 5300 feet the country was well covered with these trees, and the vegetation became entirely northern.

Throughout the march many detached houses were visible on the opposite bank of the Koollong, and there appeared to be about them a good deal of terrace cultivation. On the left side of the torrent two villages were seen, both as usual in a ruinous state.

*8th, and 9th.*—We were detained partly by snow, partly by the non-arrival of our baggage. On the 9th I ascended to a wood of *Pinus excelsa*, the first one I had noticed, and which occurred about 1000 feet above Phullung. The whole country at similar elevations was covered with snow, particularly the downs which we passed after leaving Bulphei. Tassgong was distinctly visible. The woods were otherwise composed of oaks and rhododendrons. At Phullung they were endeavouring to keep alive the wild indigo of Assam; a species of *Ruellia*, but its appearance shewed that it was unsuited to the climate.

*Feb. 10th.* To Tassangsee. We continued through a similar country, and at a like elevation, with the exception of a trifling descent to a small nullah, and an inconsiderable one to the Koollong, on the right bank of which, and about 500 feet above its bed, Tassangsee is situated. We crossed this torrent, which even here is of considerable size and not fordable, by means of an ordinary wooden bridge, and then ascended to the village. This is constituted almost entirely by the Soobah's house, which is a large quadrangular building; on the same side, but several hundred feet above the house,

there is a large tower ; also a small one on the same level, and some religious edifices. We were lodged over the stable.

The country about Tassangsee is picturesque, with large woods of *Pinus excelsa*, which here has much the habit of a larch, a few villages are visible on the same side of the Koollong, and a little cultivation. The Soobah was absent at Tongsa, to which place he had been summoned owing to the disturbances, so that we were relieved from undergoing the usual importunities and disagreements between his followers and ours. The place is said to be famous for its copper manufactures, such for instance as copper cauldrons of large dimensions ; but I saw nothing indicating the existence of manufacturers, unless it were a small village below the castle, and on the same side of the Koollong, which looked for all the world like the habitation of charcoal burners. A little further up this stream a few small flour mills occur.

Snow was visible on the heights around, and especially on a lofty ridge to the north. We found Tassangsee to be very cold owing to the violent south or south-east winds ; the thermometer however did not fall below 34°. Its elevation is 5270 feet, the vegetation entirely northern, consisting of primroses, violets, willows, oaks, rhododendrons, and pines ; very fine specimens of weeping cypress occur near this place.

*Feb. 14th.* Resumed our journey, interrupted as usual by the non-arrival of our baggage, and scarcity of coolies—and proceeded to Sanah. We descended at first to the torrent, which bounds one side of the spur on which the castle is built, and which here falls into the Koollong ; the march subsequently became a gradual and continued ascent, chiefly along its bed. We crossed two small torrents by means of rude flat wooden bridges, and passed two or three deserted villages. Snow became plentiful as we approached Sanah. This we found to be a ruined village, only containing one habitable house. It is situated on an open sward, surrounded with rich woods of oaks and rhododendrons, yews, bamboos, &c. Its elevation is very nearly 8000 feet.

*Feb. 15th.* We started at the break of day, as we had been told that the march was a long and difficult one. We proceeded at first over undulating ground ; either with swardy spots, or through romantic lanes ; we then ascended an open grassy knoll, after passing which we came on rather deep snow. The ascent continued steep and uninterrupted until we reached the summit of a ridge 11,000 feet high. Although we had been told that each ascent was the last, we found that another ridge was still before us, still steeper than the

preceding one, and it was late in the day before we reached its summit, which was found to be nearly 12,500 feet. Above 9500 feet, the height of the summit of the grassy knoll before alluded to, the snow was deep; above 10,000 feet all the trees were covered with hoar-frost, and icicles were by no means uncommon. The appearance of the black pines, which we always met with at great elevations, was rendered very striking by the hoar-frost. Every thing looked desolate, scarce a flower was to be seen, and the occasional fall of hail and sleet added to the universal gloom.

The descent from the ridge was for the first 1500 feet, or thereabout, most steep, chiefly down zigzag paths, that had been built up the faces of precipices; and the ground was so slippery, the surface snow being frozen into ice, that falls were very frequent, but happily not attended with injury. It then became less steep, the path running along swardy ridges, or through woods. In the evening I came on the coolies, who had halted at a place evidently often used for that purpose, and who positively refused to proceed a single step further. But as Captain Pemberton and Lieut. Blake had proceeded on, I determined on following them, hoping that my departure would stimulate the coolies to further exertions. After passing over about a mile of open swardy ground I found myself benighted on the borders of a wood, into which I plunged in the hopes of meeting my companions; after proceeding for about half an hour slipping, sliding, and falling in all imaginable directions, and obtaining no answers to my repeated halloos; after having been plainly informed that I was a blockhead by a hurkarah, who as long as it was light professed to follow me to the death—"Master go on, and I will follow thee to the last gasp with love and loyalty"—I thought it best to attempt returning, and after considerable difficulty succeeded in reaching the coolies at 8½ p. m. when I spread my bedding under a tree, too glad to find one source of comfort.

I resumed the march early next morning, and overtook my companions about a mile beyond the furthest point I had reached; and as I expected, found that they had passed the night in great discomfort. We soon found how impossible it would have been for the coolies to have proceeded at night, as the ground was so excessively slippery from the half melted snow, and from its clayey nature, that it was as much as they could do to keep their legs in open day-light.

We continued descending uninterruptedly, and almost entirely through the same wood, until we reached Singé at 9½ a. m. The total distance of the march was fifteen miles—the greatest amount of ascent was about 4500 feet, of descent 6100 feet. We remained at

Singé up to the 18th, at which time some coolies still remained behind. This village, which is 6330 feet above the sea, is of moderate size, containing about twelve houses; in the best of these we were lodged, and it really was a good house, and the best by far we were accommodated with while in Bootan.

On the night of the 17th snow fell all around, though not within 1000 feet of Singé. The comparative mildness of the climate here was otherwise indicated by the abundance of rice cultivation about and below it. It stands on the border of the wooded and grassy tracts so well marked in the interior of Bootan, at least in this direction, and about midway on the left side of a very deep ravine, drained by the river Koosee. On both sides of this, villages were plentiful; on the opposite or western side alone I counted about twenty; about all there is much cultivation of rice and wheat; the surface of the earth where untilled, being covered with grassy vegetation and low shrub.

*Feb. 18th.* We commenced a steep descent, and continued it until we came in sight of the river Koosee, which is not visible from Singé. We then turned to the north, following the course of the river upwards, the path running about 800 feet above its bed. Thence, after descending another ravine, drained by a tributary to the Koosee, we again ascended slightly, to re-descend to the Koosee, up the bed of which we then kept until we came to the Khoomar, a considerable torrent, which we crossed about 100 yards from its mouth by a wooden bridge; within a quarter of a mile of this we crossed the Koosee itself by a similar bridge, and then ascended gradually along its right bank until we reached Singlang, which place became visible after passing the Khoomar.

After arriving at the Koosee the country became barren, resembling much that about Tassgong; and the only cultivation we passed in this portion of the march was some rice along the bed of that river.

The usual delays took place at Singlang, and as it was the residence of a Soobah, we suffered the usual inconveniences. We were miserably lodged in a small open summer house,<sup>o</sup> up a small ravine, and at a short distance from the castle, which is a large and rather irregular building.

The village itself is a poor one, most of the inhabitants being quartered in the castle. We had an interview with the Soobah in an open place close to the village: it was conducted with much less state than that at Tassgong. We found the Soobah to be very young, in fact almost a boy; he behaved civilly, and without any pretension. None of his armed men were present, and the whole number of Bootas collected to see the show could not have exceeded 100. We

sat in the open air, while the Soobah was sheltered by a paltry silken canopy. Nachnees more than ordinarily hideous were in attendance.

There is but little cultivation about this place, which is 4520 feet above the sea, and the surrounding mountains are very barren. About the village I noticed a few stunted sugar canes, some peach and orange trees, the castor-oil plant, and a betel vine or two. The only fine trees near the place were weeping cypresses; the simul also occurs.

*Feb. 23rd.* After the usual annoyances about coolies and ponies, we left Singlang without regret, for it was a most uninteresting place. We commenced by an ascent of about 1000 feet, and then continued following the course of the Koossee *downwards*. We continued retracing our steps until we reached Tumashoo, to which place we scarcely descended, and on arriving found ourselves opposite Singé, a not more, as the crow flies, than three miles from it. We were told subsequently that there was a direct road from Singé to this, which is about the centre of the populous parts of the country I have mentioned as being visible from Singé; so that it was quite plain that we had been taken so much out of our way in order to gratify the Soobah by enabling him to *return* us some decayed plantains, balls of ghee, and dirty salt. The road throughout was good, and evidently well frequented. At an elevation of about 6000 feet we came on open woods of somewhat stunted oaks and rhododendrons; the only well wooded parts we met with being such ravines as afforded exit to water courses. We passed several villages in the latter part of the march, some containing 20 and 30 houses, and met with a good deal of cultivation as we traversed that tract, the improved appearance of which struck us so much from Singé.

Tumashoo is an ordinary sized village, about 5000 feet in elevation. We were lodged in the Dhoompá's house. I observed that the cattle here, which were *Mithans*, were kept in farm yards, better supplied with straw than the poor beasts themselves. A few sheep were likewise seen.

*Feb. 24th.* Left for Oonjar, ascending at first over sward or through a fir wood for about 800 feet, when we crossed a ridge, and thence descended until we came to a small torrent which we crossed; thence we ascended gradually, until we surmounted a ridge 7300 feet high; descending thence very gradually until we came over Oonjar, to which place we descended by a steep by-path for a few hundred feet. The road was generally good, winding along at a considerable height above the Koossec, until we finally left it on its turning to the south. Singé was in sight nearly the whole day. The

features of the country were precisely the same. At the elevation of 7300 feet the woods became finer, consisting of oaks and rhododendrons, rendered more picturesque from being covered with mosses, and a grey pendulous lichen, a sure indication of considerable elevation. Various temples and monumental walls were passed, and several average sized villages seen in various directions. A fine field of peas in full blossom was noticed at 5500 feet, but otherwise little cultivation occurred. Oonjar is a small village at an elevation of 6370 feet.

*Feb. 25th.* Leaving this place, we continued winding along nearly at the same altitude until we descended to the river Oonjar, which drains the ravine, on the right flank of which the village is situated. This river, which is of moderate size, is crossed twice within 200 yards. From the second bridge one of the greatest ascents we had yet encountered commenced; it was excessively steep at first, but subsequently became more gradual. It only terminated with our arrival at the halting place, which we denominated "St. Gothard," but which is known by the name Peemee. Its elevation is about 9700 feet, and we had ascended from the bridge as much as 4350 feet. Snow commenced at 7500 feet, and became heavy at 8500 feet; Peemee was half buried in it, and ornamented with large icicles: it consists of one miserable hut. This hut would not have withstood the attacks of another such party as ours, for the men made use of its bamboos for firewood, and the horses and mules eat very large portions of it. Our people were put considerably out from not considering it proper to use snow water, the only fluid to be procured, as there is no spring near.

*Feb. 26th.* We continued the ascent through heavy snow. For the first 1000 feet it was easy enough, but after that increased much in difficulty. Great part of the path was built up faces of sheer precipices. About noon we passed through the pass of Rodoola, which consists of a gap between two rocks, barely wide enough to admit a loaded pony. One of the rocks bore the usual slab with the mystic sentence "*Oom mainee pamee oom.*" There is nothing striking in the place, which besides is not the highest part of the mountain traversed. The elevation was found to be 12,300 feet. \*

The remainder of the ascent was very gradual, but continued for about  $1\frac{1}{2}$  miles; and I consider the actual pass from which we commenced descending to be at least 12,600 feet. The descent was at first very rapid, passing down the bold face of the mountain, which was covered entirely with stout shrubby rhododendrons. We then descended gradually through a fine wood of the black fir. On recommencing the steep descent we passed over swardy patches surrounded

by fir woods, and we continued through similar tracts until within 1000 feet of our halting place, to which we descended over bare sward.

The march, which was one of thirteen miles, lasted nine hours; the greatest ascent was nearly 4000 feet, the greatest descent nearly 5000 feet. It was with great difficulty that many of our followers succeeded in effecting it: with the usual apathy of natives, they wanted to remain in a ruined log hut, at an elevation of 12,500 feet, without food, instead of pushing on. Capt. Pemberton very properly ejected them all, and when once they had passed the snow, they regained a good deal of their miserable spirit. The road throughout the ascent was buried in snow, the depth of which alone enabled us to cross one very bad place where the constructed road appeared to have given way, and at which most of our ponies had narrow escapes. On the descent the snow became scanty at 9500 feet, and at 9000 feet disappeared almost entirely, lingering only in those places which throughout the day remain obscured in shade.

From the summit of Roddola a brief gleam of sunshine gave us a bird's-eye view of equally lofty ridges running in every direction, all covered with heavy snow.

The vegetation of the ascent was very varied, the woods consisting of oaks, rhododendrons, and bamboos, up to nearly 11,000 feet. Beyond this the chief tree was the black fir; junipers, alpine polygonums, a species of rhubarb, and many other alpine forms presented themselves in the shape of the withered remains of the previous season of active vegetation. That on the descent was less varied, the trees being nearly limited to three species of pines, of which the black fir scarcely descended below 11,600 feet, when it was succeeded by a more elegant larchlike species, which I believe is *Pinus Smithiana*; this again ceased toward an altitude of 9500 feet, when its place was occupied by *Pinus excelsa*, now a familiar form.

We found Bhoomlungtung to occupy a portion of rather a fine valley. The village is of moderate size, but of immoderate filth, only exceeded in this respect by its tenants, to whom no other Bootas could come near in this, as it would seem, necessary qualification of an inhabitant of a cold, bleak, mountainous country; it is situated on the left bank of a good sized stream. We were lodged in the chief house, but were annoyed beyond measure by the smoke arising from a contiguous cook room, in which operations were going on day and night. The valley is not broad, but is two or three miles in length: it is surrounded on all sides, but especially to the south and east by lofty mountains. The elevation of Bhoomlungtung is nearly 8700 feet,



and we considered it to be the most desirable spot we had yet met with.

The valley is for the most part occupied by wheat fields, but the prospect of a crop appeared to me very faint. Two or three villages occur close to Bhoomlungtung. The tillage was better than any we had seen, the fields being kept clean, and actually treated with manure, albeit not of the best quality; in a few instances they were surrounded with stone walls, as were the court yards of all the houses, but more commonly the inroads of cattle were considered sufficiently prevented by strewing thorny branches here and there. The houses were of ordinary structure, but unspeakably filthy.

With the exception of a sombre looking oak near Bhoomlungtung, and some weeping willows, the arboreous vegetation consists entirely of firs. The shrubby vegetation is northern, and so is the herbaceous, but the season for this had not yet arrived. It was here that I first met with the plant called after Mr. James Prinsep; the compliment is not, in Bootan at least, enhanced by any utility possessed by the shrub, which is otherwise a thorny, dangerous looking species. Here too we first saw English looking magpies, larks, and red-legged crows.

*March 1st.* Proceeded to Byagur or Juggur. We were told that the march was a short one, and that we should continue throughout down the bed of the Tung-Tchien, the river of Bhoomlungtung; we found, however, that we soon had to leave this, and commence ascending. After a second descent to a small nullah, we encountered a most tedious ascent, which continued until we surmounted a ridge overlooking Byagur, to which place we descended very rapidly. The height of this ridge was 9950 feet, yet we did not meet with a vestige of snow. The distance was fourteen miles. We passed two or three small villages, but saw scarcely any vegetation after leaving the valley. The vegetation continued the same, the road traversing either sward or fir woods, consisting entirely of *Pinus excelsa*.

The valley in which Byagur is situated is still larger than that of Bhoomlungtung: it is drained by a large river which is crossed by a somewhat dilapidated wooden bridge; the elevation is about 8150 feet. The village so called is a moderately sized one; but there are several others in the valley, which is one of the very few decently inhabited places we met with. The inhabitants are much cleaner than those of Bhoomlungtung. The Soobah was absent at Tongsa; his castle, which is a very large, irregular, straggling building, is situated on a hill 500 feet above the plain, some of its defences, or outworks, reaching nearly to the level of the valley. During the hot weather

it is occupied by Tongsa Pillo, on which occasion the Soobah retires to Bhoomlungtung.

The cultivation is similar to that of the other valley, but the crops looked very unpromising. The soil is by no means rich, and the wind excessively bleak; wheat or barley are the only grains cultivated. The mountains which hem in this valley are not very lofty; to the north, in the back ground, perpetual snow was visible. To our west was the ridge which we were told we should have to cross, and which in its higher parts could not be less than 12,000 feet.

*March 4th.* We commenced ascending the above ridge almost immediately on starting; surmounting this, which is of an elevation at the part we crossed of 11,035 feet, we continued for sometime at the same level, through fine open woods of *Pinus Smithiana*: having descended rapidly afterwards to a small nullah, 9642 feet in elevation, we then reascended slightly to descend into the *Jaisa* valley. On the east side of the ridge, i. e. that which overlooks Byagur, we soon came on snow, but none was seen on its western face, notwithstanding the great elevation. The country was very beautiful, particularly in the higher elevations. I may here advert to the bad taste exhibited in naming such objects after persons, with whom they have no association whatever. As it is not possible for all travellers to be consecrated by genera, although this practice is daily becoming more common, we should connect their names with such trees as are familiar to every European. As we have a *Pinus Gerardiana* and *Webbiana*, so we ought to have had *Pinus Herbertiana* and *Moorcroftiana*, &c. By so doing, on meeting with fir trees among the snow-clad Himalayas, we should not only have beautiful objects before us, but beautiful and exciting associations of able and enduring travellers. Of Capt. Herbert, the most accomplished historian of these magnificent mountains, there is nothing *living* to give him a "local habitation and a name." It will be a duty to me to remedy this neglect; and if I have not a sufficiently fine fir tree hitherto undescribed in the Bootan collection, I shall change the name of the very finest hitherto found, and dignify it by the name *Herbertiana*. The prevailing tree was the Smithian pine. We saw scarcely any villages, and but very little cultivation. *Jaisa* is a good sized village; it was comparatively clean, and the houses were, I think, better than most we had hitherto seen. We were lodged in a sort of castle, consisting of a large building, with a spacious flagged court yard, surrounded by rows of offices. The part we occupied fronted the entrance, and its superior pretensions were attested by its having an upper story.

There is a good deal of wheat cultivation around the village, which is not the only occupant of the valley : this is the highest we had yet seen, and is perhaps one of the highest inhabited vallies known, as it is 9410 feet above the sea ; it is drained by a small stream, and is of less extent than either that of Byagur or Bhoomlungtung. The surrounding hills are covered with open fir woods, and are of no considerable height. Larks, magpies, and red-legged crows, continued plentiful, but on leaving this valley we lost them.

*March 5th.* We proceeded up the valley, keeping along the banks of the stream for sometime ; we then commenced ascending a ridge, the top of which we reached about noon ; its elevation was 10,930 feet. The descent from this was for about 2500 feet very steep and uninterrupted, until we reached a small torrent at an elevation of 8473 feet ; from this we ascended slightly through thick woods of oak, &c. until we came on open grassy tracts, through which we now gradually descended at a great height above the stream, which we had left a short time before. We continued descending rather more rapidly until we came to a point almost immediately above Tongsa, by about 1000 feet ; from this the descent was excessively steep. The distance was 13 miles. On the ascent snow was common from a height of 9000 feet upwards. The vegetation on this, or the eastern side, was in some places similar to that above Byagur. Beautiful fir woods formed the chief vegetation, until we came close to the summit, when it changed completely. Rhododendrons, *Bogh puttah*, and a species of birch, and bamboos, were common, mixed with a few black pines. The woods through which we descended, were in the higher elevations almost entirely of rhododendrons ; and lower down chiefly of various species of oak and maple—the former being dry and very open, the latter humid and choked up with underwood. After coming on the open grassy country we did not revert to well wooded tracts.

No villages occurred, nor did we see any signs of cultivation after leaving the valley of Jaisa until we came near Tongsa, above which barley fields were not uncommon. Tongsa, although the second, or at any rate the third place in Bootan, is as miserable a place as any body would wish to see. It is wretchedly situated in a very narrow ravine, drained by a petty stream, on the tongue of land formed by its entrance into the large torrent Mateesum, which flows 1200 feet below where the castle stands. The village is 6250 feet in altitude : it consists of a few miserable houses, one of the worst of which was considerably lent to us. The castle is a large and rather imposing building, sufficiently straggling to be relieved from heaviness of appearance : it is so overlooked, and indeed almost overhung by some

of the nearest mountains, that it might be knocked down by rolling rocks upon it. It is defended by an outwork about 400 feet above.

The surrounding country is uninteresting, the vegetation consisting of a few low shrubs and some grasses : of the former the most common are a species of barberry, and a hitherto undescribed genus of *Hamelidæ*. No woods can be reached without ascending 12 or 1500 feet.

Barley was the chief cultivation we saw, but the crops alternated with rice, which is here cultivated, as high as 6800 feet. In the gardens attached to the cottages, or rather huts, we observed the almond and pear in full blossom: the only other trees were two or three weeping cypresses and willows, and a solitary poplar.

Our reception was by no means agreeable. I was roared to most insolently to dismount while descending to the castle; our followers were constantly annoyed by the great man's retainers; and, in fact, we got no peace until we had an interview with the Pillo on the 15th. Before the arrival of this personage, who had just succeeded to office, great efforts were made to bring about an interview with the ex-Pillo, and a stoppage of supplies was actually threatened in case of refusal. The firmness of Capt. Pemberton was however proof against all this.

It had been previously arranged that the former Pillo, the uncle of the present one, should be admitted at this interview on terms of equality; this kindness on the part of the nephew being prompted probably by the hopes of securing his uncle's presents afterwards. We were received with a good deal of state, but the apartment in which the meeting took place was by no means imposing, or even well ornamented. The attendants were very numerous, and mostly well-dressed, but the effect of this was lessened by the admission of an indiscriminate mob. We were not admitted however into the presence without undergoing the ordeals which many orientals impose on those who wish for access to them.

We were most struck with the difference in appearance between the old and new Pillors: the former was certainly the most aristocratic personage we saw in Bootan; the latter, a mean looking, bull-necked individual. A novel part of the ceremony consisted in the stirring up of a large can of tea, and the general recital of prayers over it, after which a ladleful was handed to the Pillors, who dipped their forefinger in it, and so tasted it.

The meeting passed off well; and afterwards several less ceremonious and more friendly meetings took place. We took leave on the 22nd. This interview was chiefly occupied in considering the list of presents, which the Pillo requested the British Government would do themselves the favour of sending him. He begged most

unconscionably, and I thought that the list would never come to an end; and he was obliging enough to say, that any thing he might think of subsequently would be announced in writing. He was very facetious, and evidently rejoiced at the idea of securing so many good things at such trifling expense as he had incurred in merely asking for them. Nothing could well exceed the discomfort we had to undergo during our tedious stay at this place. Our difficulties were increased subsequently to our arrival by the occurrence of unsettled weather, during which we had ample proofs that Bootan houses are not always water-proof; we were besides incessantly annoyed with a profusion of rats, bugs, and fleas; nor was there a single thing to counterbalance all these inconveniences, and we consequently left the place without the shadow of a feeling of regret.

On the 23rd of March we resumed our journey; and having traversed the court yard of the castle, we struck down at once to the river Matcesum by a very steep path. Having crossed this by a bridge, we gradually ascended, winding round the various ridges on the right flank of the ravine of this river. We left it when it turned to the southward, in which direction Bagoa-Dooar was visible, and continued ascending gradually until we reached Taseeling, seven miles from Tongsa, and 7230 feet above the sea.

Taseeling consists of a large house, principally used as a halting-place for *chiefs* going to and from Punukka and Tongsa. The surrounding mountains are rather bare, as indeed is the country between it and Tongsa. There is some cultivation to be seen around it, and several villages. As we approached Taseeling open oak and rhododendron woods recurred. The vegetation near the Mateesum was sub-tropical; the road was good, and in one place was built in zigzag up the face of a cliff.

*March 24th.* To Tchinjipjee. We commenced by ascending until we had surmounted a ridge about 800 feet above Taseeling; during the remainder of the march we traversed undulating ground at nearly the same altitude, at first through an open country, afterward through beautiful oak and magnolia woods, until we came on the torrent above which we had been ascending since leaving the Mateesum; a little farther on we came on the finest temple we had seen, and situated in a most romantic spot. It stood on a fine patch of sward, in a gorge of the ravine, the sides of which were covered with beautiful cedar-looking pines; the back ground was formed by lofty mountains covered with heavy snow.

Following the river upwards for about a mile and a half, we reached Tchinjipjee, which is situated on the right bank of the torrent.

The march was throughout beautiful, particularly through the forest, which abounded in picturesque glades. No villages or cultivation were seen.

Tchinjipjee is perhaps the prettiest place we saw in Bootan; our halting place stood on fine sward, well ornamented with (*Quercus seme carpiifolia*?) very picturesque oaks, and two fine specimens of weeping cypress. The surrounding hills are low, either almost entirely bare or clothed with pines. The village is of ordinary size, and is the only one visible in any direction; its elevation is 786 feet. There is some cultivation about it, chiefly of barley, mixed with radishes.

*March 27th.* We continued following the river upwards, the path running generally at a small height above its bed. Having crossed it by a rude wooden bridge, we diverged up a tributary stream, until we reached a small village; we thence continued ascending over easy grassy slopes, here and there prettily wooded, until we reached the base of the chief ascent, which is not steep, but long, the path running along the margin of a rhododendron and juniper wood: the height of its summit is 10,873 feet. Thence to Rydang was an uninterrupted and steep descent, the path traversing very beautiful woods of rhododendrons, oaks, yews, &c. Snow was still seen lingering in sheltered places above 10,000 feet. The march throughout was beautiful. In the higher elevations the *Bogh Pat* was very common.

Besides the village mentioned, two temporary ones were seen near the base of the great ascent, built for the accommodation of the Yaks and their herdsmen: of this curious animal two herds were seen at some distance.

Rydang is prettily situated towards the bottom of a steep ravine: its elevation is 6963 feet. A few villages occur about it, with some barley and wheat cultivation.

*March 28th.* We descended directly to the river Gnee, which drains the ravine, and continued down it sometime, crossing it once; then diverging up a small nullah we commenced an ascent, which did not cease until we had reached an elevation of 8374 feet. Continuing for sometime at this elevation we traversed picturesque oak and rhododendron woods, with occasionally swardy spots; subsequently descending for a long time until we reached Santagong.

Oak and rhododendron woods continued common until we approached Santagong, in the direction of which the trees became stunted, and the country presented a barren aspect. Several villages were however seen in various directions, surrounded with cultivation.

Santagong is 6300 feet above the sea ; it is a small village, but the houses are better than ordinary. The surrounding country, especially to the north, is well cultivated, and the villages numerous. The country is bare of trees ; almost the only ones to be seen are some long leaved firs, a short distance below Santagong, close to a small jheel abounding in water fowl.

*March 29th.* From Santagong we proceeded to Phain, descending immediately to the stream, which runs nearly 1800 feet below our halting place. Crossing this, as well as a small tributary, we encountered a steep ascent of 1000 feet. Subsequently we wound along, gradually ascending at the same time, until we reached an inconsiderable ridge above Phain, to which place we descended slightly. The distance was six miles. The country was bare in the extreme, and after crossing the stream above mentioned, villages became rather scanty. Towards Phain the soil became of a deep red colour.

This place, which is 5280 feet above the sea, is a small village, containing six or seven tolerable houses. The country is most uninteresting and uninviting, scarce a tree is to be seen, the little vegetation that does exist consisting of low shrubs. A few villages are scattered about it, and there is some rice cultivation.

We were detained here until the 1st of April, in order that we might repose after our fatigues ; but in reality to enable the Punukka people to get ready our accommodations. Wandipore, a well known castle situated in the Chillong pass, is just visible from Phain, below which it appears to be some 1200 feet, and about three miles to the south west. Its Zoompoor, one of the leading men in Bootan, made some ineffectual attempts to take us to Punukka viâ his own castle ; various were the artifices he resorted to for this purpose, but he failed in all. Among others, he sent a messenger to inform us that the Deb and Dhurma were both there, and very anxious to meet us, and that after the meeting they would conduct us to Punukka.

*April 1st.* To Punukka. We descended rather gradually towards the Patchien, proceeding at first north-west, and then to the north. On reaching the stream, which is of considerable size, we followed it up, chiefly along its banks, until we arrived at the capital, no view of which is obtained until it is approached very closely. The valley of the Patchien was throughout the march very narrow ; there was a good deal of miserable wheat cultivation in it, and some villages, all of moderate size. The country continued extremely bare. The distance was about eleven miles. Punukka, the second capital in Bootan, the summer residence of a long line of unconquered monarchs—Punukka to which place we had been so long looking forward with feelings of de-

light, although the experience of Tongsa ought to have taught us better, disappointed all of us dreadfully. For in the first place I saw a miserable village promising little comfort as respects accommodation, and one glance at the surrounding country satisfied me that little was to be done in any branch of natural history. For a narrow, unfruitful valley, hemmed in by barren hills, on which no arboreous vegetation was to be seen, except at considerable elevation, gave no great promise of botanical success.

On reaching the quarters which had been provided for us, and which were situated in front of the palace, we were much struck with the want of care and consideration that had been shewn, particularly after the very long notice the Bootas had received of our coming, and the pressing invitations sent to meet us.

These quarters had evidently been stables, and consisted of a square enclosure surrounded by low mud walls. Above the stalls small recesses, scarcely bigger than the boxes which are so erroneously called a man's "long home," had been made for our special lodgements; that of the huzoor, Captain Pemberton, was somewhat larger, but still very much confined. Having added to these a roof formed of single mats, an oppressive sun, and a profusion of every description of vermin, Capt. Pemberton determined on renting quarters in the village, and this, owing to his liberality, was soon accomplished; and from the two houses we occupied did we alone obtain comfort among the numerous annoyances we were doomed to experience during our lengthened stay.

The capital of Bootan is for pre-eminence, miserable. The city itself consists of some twelve or fifteen houses, half of which are on the left bank of the river, and two-thirds of which are completely ruinous, and the best of these '*Capital*' houses were far worse than those at Phain or Santagong. &c. Around the city, and within a distance of a quarter of a mile, three or four other villages occur, all bearing the stamp of poverty, and the marks of oppression.

The palace is situated on a flat tongue of land formed by the confluence of the Matchien and Patchien rivers. To the west it is quite close to the west boundary of the valley, the rivers alone intervening. It is a very large building, but too uniform and too heavy to be imposing: it is upwards of 200 yards in length, by perhaps 80 in breadth. Its regal nature is attested by the central tower, and the several coppered roofs of this.

The only cheering objects visible in this capital, are the glorious Himalayas to the north, and a Gylong village 12 or 1500 feet above the palace to the west; elsewhere all is dreary, desolate looking, and hot.



During the first few days of our stay, and indeed until our interview with the Deb, we were much annoyed by the intruding impertinence and blind obstinacy of his followers. They were continually causing disputes either with the sentries or our immediate followers, and it was only by repeated messages to the palace, stating the probable consequence of such a system of annoyance, that Captain Pemberton succeeded in obtaining any respite.

After many delays, we were admitted to the Deb's presence on the 9th. Leaving our ponies, we crossed the bridge built over the Patchien, which was lined with guards, and defended by some large, wretchedly constructed wall pieces. We then entered a paved yard, and thence ascended by some most inconvenient stairs to the palace, the entrance to which was guarded by a few household troops dressed in scarlet broad cloth. We then crossed the north quadrangle of the palace, which is surrounded with galleries and apartments, and was crowded with eager spectators, and ascending some still more inconvenient, or even dangerous stairs, reached a gallery, along which we proceeded to the Deb's receiving room, which is on the west face of the palace: at the door of this the usual delays took place, these people supposing that their importance is enhanced by the length of delay they can manage to make visitors submit to.

The Deb, who was an ordinary looking man, in good condition, received us graciously, and actually got up and received his Lordship's letter standing; the usual conversation then took place by means of interpreters, and the Deb having received his presents, and presented us with usual plantains, ghee, and some walnuts, dismissed us; and this was the first and last time I had the honour of seeing him, as I was indisposed at the time of our leaving. To return, the room was a good sized one, but rather low; it was supported by well ornamented pillars, hastily hung with scarfs and embroidered silk. The most amusing part of the ceremony was that exhibited by the accountant general's department, who were employed in counting and arranging courie shells—really emblematic of the riches of the kingdom—apparently with no other aim than to re-count, and re-arrange them, yet they were very busily engaged in writing the accounts. A day or two after, our interview with the Dhurma took place. He received us in an upper room of the quadrangular central tower: while we were in his presence we remained standing, in compliment to his religious character. The Dhurma Rajah is a boy of eight or ten years old, and good looking, particularly when the looks of his father, the Tungso Piljo, are taken into consideration. He sat in a small recess, lighted chiefly with lamps, and was prompted by a very venerable looking,

grey-headed priest. He had fewer attendants, and his room was less richly ornamented than that of the Deb. Around the room sat priests busily employed in muttering charmed sentences from handsome gilt lettered black books, which reminded me of those used in some parts of Burmah.

Very few of our attendants saw either of the Rajahs, and it was expected that no one would presume to enter the Dhurma's presence empty handed. To some of the sipahis, who were anxious to see him, his confidential advisers said, "Give forty rupees, come into the quadrangle under the Dhurma's window, and then you may see him, or you may not see him; I will not be answerable for any thing, but receiving the forty rupees."

During our protracted stay at this place, nothing particularly worthy of notice occurred. Intrigues seemed to be constantly going on, and the trial of temper on the part of Captain Pemberton must have been very great; it was however soon evident that no business could be transacted with a Bootea Government without being enabled first to enforce abundance of fear, and consequently any amount of agreement from them; messages to and fro passed continually, the bearer being a very great rascal, in the shape of the Deb's Bengal Moharrer. Thus he would come and appoint the next day for a meeting; then he would return and say, that such a place was better than such a place; as evening drew near he would come and say, unless you agree to such and such, there will be no meeting; and after bearing a message that no change in this respect would be made, he would make his appearance and say, all the minsters were sick, and so could not meet.

My only amusement out of doors was a morning walk up or down the valley. I was prompted to this chiefly by the pangs of hunger, as the Bootea supplies were very short, indeed wild pigeons afforded me at least some relief. During the day I examined such objects as my collectors brought in, for it was too hot to think of being out after 9 A. M. I also had a few Bootea patients, most of whom were labouring under aggravated forms of venereal.

The climate of Pুনukka has but little to recommend it, and in fact nothing, if viewed in comparison with the other places we had seen in Bootan. The greatest annoyance existed in the powerful winds blowing constantly throughout the day up the valley, and which were often loaded with clouds of dust. The mean temperature of April may be considered as 71°.

The maximum heat observed was 83°, the minimum 64°. The mean temperature of the first week of May was 75° 3'; the maximum

80°, and the minimum 70°. The cultivation in the valley, the soil of which seems very poor, containing a large proportion of mica, was during our stay limited to wheat and buck-wheat, but scarcely any of the former seemed likely to come to ear. Ground was preparing for the reception of rice, which is sown and planted in the usual manner. Crops just sown are immediately eaten up by the swarms of sacred pigeons that reside in the palace, so that husbandry is by no means profitable; more especially as there are other means of providing for the crops, such as they may be. Thus we saw several small fields, amounting perhaps to an acre in extent, cut down to provide fodder for some ponies that had lately shared in a religious excursion to Wandipore.

Cattle are not frequent. There were some pigs. The fowls were of the most miserable description, and very scarce. In spite of offers of purchase and plenty of promises, we were throughout allowed three a day, and they were rather smaller than pigeons. Towards the latter end of our stay, rice became bad and scarce.

We saw nothing indicating any degree of trade worth mentioning. Parties changing their residence frequently passed through from the north-east, generally accompanied by ponies, whose most common burdens appeared to be salt. No direct intercourse appears to exist with Thibet, as even the tea, which they consume in large quantities, is said to come from Paro Pillo's.

There are a great number of Assamese slaves about Pুনukka; indeed all the agricultural work, as well as that of beasts of burden, appears to devolve upon these unfortunate creatures, who are miserably provided for, and perhaps dirtier than a genuine Bootea himself. During my morning walks I was almost daily entreated for protection. In one case only, and in this by the merest accident, was Captain Pemberton enabled to get such evidence as authorised him to claim it as entitled to British protection. Connected with this case is an act of black treachery, to which I shall hereafter refer.

We stopt so long here, and we had daily so many instances proving that no confidence could be placed on any thing coming from the palace, that I began at last to despair of getting away. The old Deb was very anxious to see us, and the new Deb still more anxious that we should accompany him when he left Pুনukka, in the hope that the presence of the Mission would be advantageous to him.

It was entirely owing to the firmness of Captain Pemberton that we were enabled to avoid such a disagreeable meeting; and the Deb, feeling at last convinced that his views could not be carried into effect, gave orders for getting rid of us as speedily as possible; and on

the 9th May at noon we left Punukka, the most uninviting place I have ever seen in a hilly country. On the morning of the same day there was a demonstration in the palace of great boldness; the roof of the northern side was covered with troops, who shouted, fired, and waved banners.

We crossed both bridges of the palace without any interruption or annoyance, at which I was most agreeably surprised; and then gradually ascended the right flank of the valley, following the course of the united rivers, Patchien and Matchien. We proceeded in this direction for sometime, until we came on a ravine affording an outlet to a tributary of the Panukka river, which we then followed, gradually descending through fir woods until we reached the torrent. Crossing this, which is a small one, we commenced the ascent to Telajong, which we soon reached. We were lodged in the castle, which is in the hands of the old Deb's followers, and who threatened to fight very hard. Its elevation is about 5600 feet, and it is situated towards the base of very steep mountains, which we crossed next day. It is somewhat ruinous, but might even in Bootea hands make a stout defence against a Bootea force.

The march was a moderate one; up to the ravine the country had the same barren aspect, but on changing our direction we came on fir woods. About Telajong the country is well wooded, chiefly with oaks, and the vegetation is considerably varied. Near the torrent we met with a village or two, and a little cultivation, chiefly of buck wheat.

*April 10th.* We descended to a small nullah just below the castle, and then commenced an ascent which lasted for three or four hours, and which was generally moderately steep. On surmounting the ridge, which was of an elevation of about 10,000 feet, we commenced a long, and uninterrupted descent along the course of a small torrent (the path being well diversified with wood and glade) until we reached Woollokha, distant fourteen and half miles from Telajong.

About 1200 feet above this we came on rather fine wheat cultivation, among which two or three villages were situated. Above this elevation we came on fine woods of oaks and yews, diversified with swardy spots; and on reaching the summit of the ridge an open sward with beautiful rhododendron, birch, and juniper woods. Herbaceous monocotyledons abounded here, in fact the vegetation altogether was very rich, and the first spring vegetation we had yet met with. Gooseberries and Currants were common from 9000 feet upwards: Euphorbius, Primroses, Saxifragis, Clematises, Anemones, Ranunculuses, &c., were some among the many European forms that I met

with on this march. Near the summit, on the descent, a genuine larch was observed, and lower down two species of poplar were very common. The scenery was generally very beautiful. We passed a delightfully situated Gylong village not much below the summit, and near Woollookha saw Symtoka, a rather large square building belonging to the Deb Rajah, situated two or three hundred feet above our road.

Woollookha is a good sized village, and the houses are very good : it is close to the river Teemboo, which drains Tassisudon valley, a few miles distant to the north. There are several villages around it, and a good deal of cultivation of alternating crops of barley, wheat, and rice. The valley, if indeed it can be called so, for it is very narrow, is picturesque enough, although the surrounding hills are not well wooded. The banks of the river, which here flows gently enough, are well ornamented with weeping willows.

11th. We continued our route following the river, the path generally laying down its bed, or close to it, occasionally ascending two or three hundred feet above it. Halted at Lomnoo, an easy march. The features of the country remained the same until we neared our halting place, when woods of *Pinus excelsa* became very common ; roses occurred in profusion, and the vegetation generally consisted of shrubs ; villages were tolerably frequent, and the cuckoo\* was again heard.

12th. To Chupcha. Continued for some time through a precisely similar country, still following the river, but generally at some height above its bed. After passing Panga, a small village at which our conductors wished us to halt, although it was only six miles from Somnoo, we descended gradually to the river Teemboo, and continued along it for some time, during which we passed the remains of a suspension bridge. Leaving the river soon afterwards, we encountered such a long ascent that we did not reach Chupcha till rather late in the evening, most of the coolies remaining behind. Having surmounted the ridge immediately above Chupcha, and which is about 8600 feet in altitude, we descended very rapidly to the village, which is about 600 feet lower down the face of the mountain. The road was for the most part tolerably good ; in one place it was built up along the face of a cliff overhanging the Teemboo. The scenery was throughout pretty, but especially before coming on the ascent : some of the views along the river were very picturesque.

\* The first time I heard this bird was about Punukka. Although in plumage it differs a good deal from the bird so well known in Europe, yet its voice is precisely similar.

After leaving Panga no villages were passed, and one small one only was seen on the opposite bank of the Teemboo; but up to the above mentioned place the country continued tolerably populous. The vegetation, until the ascent was commenced, was a good deal like that about Somnoo, *Pinus excelsa* forming the predominant feature. From the base of the ascent it became completely changed—oaks forming the woods, and from 7500 feet upwards, various rhododendrons occurring in profusion, mixed with wild currants, &c. We were detained at Chupcha for two days, at the end of which the last coolies had scarcely arrived: it is ten miles from Somnoo, and sixteen miles from Panga, and about 8100 feet in elevation. The greatest ascent, and this too after a march of twelve miles, must have been between 2500 and 3000 feet. We were lodged comfortably in the castle, although it was not white-washed, nor had it the insignia of a belt of red ochre. It is a short distance from the village, which again is two or three hundred yards to the west of the direct road. We thought Chupcha a delightful place: the scenery is varied, the temperature delightful, varying in doors from 46° to 52°

The face of the mountain although very steep, is about the castle well cultivated: the crops which were of six ranked barley, were very luxuriant, and certainly the finest we ever saw in the country. The red-legged crow recurred here. During our stay, I ascended the ridge immediately above the castle, passing through a very large village of Gylongs, elevated at least 9000 feet. This village was the largest I saw in Bootan, and was ornamented with a pretty religious building, surrounded by junipers, and more decorated than such edifices usually are. Up to the village the path passed through beautiful woods of *Pinus excelsa*: above it I came on open sward, which continued on the south face up to the very summit of the ridge, which was nearly 11,000 feet. The north face of the mountain was well wooded: on it rhododendrons, a few black pines, beautiful clumps of *Pinus Smilghiana*, Bogh Pat, Mountain Pears, Aconites, Columbines, Saxifrages, Primroses, &c. were found in abundance. The southern face was decorated with a pretty yellow Anemone, and the pink spikes of a Bistort. From the ridge still loftier ones were visible in every direction, all of which were covered with snow, which lightly sprinkled the one on which I stood. At this season snow scarcely remains for a day under 11,000 feet, except in very sheltered situations.

15th. I left Chupcha with much regret. We descended by a precipitous path to a torrent about 1800 feet below the castle. Crossing this, we descended gradually until we came on the ravine of the

Teemboo; at which point there is a small pagoda, visible from Chupcha. We then turned southwards, and continued for a long time at nearly the same level, passing a small village, Punugga, three or four hundred feet below us, and in which Capt. Turner had halted on his ascent. The descent to Chuka was long and gradual, becoming tolerably steep as we approached it. We reached the Teemboo by a miserable road, about half a mile from Chuka castle, which occupies a small eminence in what has once been the bed of the river.

The march was seventeen miles. The road in many places was very bad, and scarcely passable for loaded ponies. The scenery was frequently delightful, and vegetation was in the height of spring luxuriance. The hills bounding the ravine of Teemboo continued very high until we reached Chuka; they were well diversified, particularly at some height above us, with sward and glade, and richly ornamented with fine oaks, rhododendrons, cedar-like pines, and *Pinus excelsa*. Water was most abundant throughout the march, and in such places the vegetation was indescribably rich and luxuriant.

No village besides that of Punugga was passed or seen, nor did I observe any cultivation. I was much impeded by droves of cattle passing into the interior, for the road was frequently so narrow, and the mountains on which it was formed so steep, that I was obliged to wait quietly until all had passed. These cattle were of a different breed from those hitherto seen in Bootan, approaching in appearance the common cattle of the plains, than which however they were much finer and larger.

We were sufficiently well accommodated in the castle of Chuka, which is as bare of ornament as its neighbour of Chupcha; it is a place of some strength against forces unprovided with artillery, and commands the pass into the interior very completely. There is a miserable village near it, and several trees of the *Ficus elastica*.

16th. To Murichom. We descended to the Teemboo, which runs some fifty feet below the castle, and crossed it by a suspension bridge, of which a figure has been given by Capt. Turner; it is very inferior in size and construction to that of Rassgong, although, unlike that, it is flat at the bottom. We continued following the Teemboo winding gradually up its right bank, chiefly through rather heavy jungle, and descending subsequently about 600 feet to its bed by a dreadfully dangerous path, built up the face of a huge cliff. We continued along it until we crossed a small torrent at its junction with the large river, and then ascended gradually, following the ravine of this through humid jungle. As we approached Murichom we left the Teemboo a little to our left, and continued through a heavily

wooded country. Before ascending finally to Murichom, we descended twice to cross torrents. We reached Murichom late in the evening, the distance being eighteen miles.

No villages were seen until we came in sight of Murichom. The mountains were much decreased in height, and clothed with dense black jungle. We passed two water-falls, both on the left bank of the Teemboo, the one most to the south being the *Minza peeya* of Turner. Neither of them appeared particularly worthy of notice. The vegetation had almost completely changed, it partook largely of the sub-tropical characters, scarcely a single European form being met with. The road was absolutely villainous,\* it was very narrow, frequently reduced to a mere ledge, and painful owing to the sharp projections of the limestone, the prevailing rock of this part of the country. Murichom is a small village, rather more than 4000 feet above the sea; the houses, which are about eight or ten in number, are thatched: it is prettily situated: there is a little cultivation of wheat and maize about it. Although at so considerable an elevation, most of the plants were similar to those of Assam.

17th. Leaving Murichom we descended rapidly to a small torrent, from which we re-ascended until we had regained the level of Murichom. The path then wound along through heavily wooded country at an elevation of 4000 or 4200 feet: we continued thus throughout the day. At 5 P. M. finding that the coolies were commencing to stop behind, and failing in getting any information of my companions, I returned about  $1\frac{1}{2}$  mile to the small village of Gygoogoo, which is about 300 feet below the path, and not visible from it. It is a miserable village of three or four bamboo huts. We had previously passed another and much better village, but as this was only six miles from Murichom, Capt. Pemberton determined to push on.

18th. I proceeded to Buxa. The path was somewhat improved, and the ascent gradual until an elevation of about 5500 feet was surmounted, from which the descent to Buxa is steep and uninterrupted. This place is seen from a ridge about 1200 feet above it. I reached it between 9 and 10 A. M., and found that my companions had arrived late on the preceding evening, having accomplished a march of twenty miles in one day. Scarcely any coolies had arrived, however, before me. The features of the country remained the same, the whole face being covered with dense black looking forest. Even on

\* Such is the nature of the path from Chuka to the plains, although it is the great thoroughfare between both capitals and Rungpore, that either the trade of Bootan with that place must be much exaggerated, or some other road must exist between these two points.



the ridge, which must have been between 5000 and 5500 feet in elevation, scarcely any change took place. As I descended to Buxa vegetation became more and more tropical, and on reaching it found myself surrounded with plants common in many parts of the plains of Assam.\*

Buxa is rather a pretty place, about 2000 feet above the sea. The only decent house in it is that of the Soobah, who is of inferior rank. The huts are of the ordinary description, and do not exceed twelve in number. The Soobah's house, with some of those of Bengal officers, occupy a low rising ground in the centre of the pass, which is divided from the hills on either side by a small torrent. A view of the plains is obtainable from this place.

Captain Pemberton left Buxa a day before me, as I was detained behind for coolies, none of whom had yet arrived. On the following day I rejoined him at Chicha-cotta. The descent to the plains is steep at first, and commences about a quarter of a mile from Buxa. On reaching the steep portion a halting place, called Minagoung, is passed, at which place, all bullocks, which are here used as beasts of burden, are relieved if bound to Buxa, or provided with burdens, if bound for the plains. The descent from this place is very gradual, and scarcely appreciable; the path was good, and bore appearances of being tolerably well frequented; it passed through a rather open forest, low grasses forming the under-plants. The plains were not reached for several miles, indeed the descent was so gradual, that the boundaries of the hills and those of the plains were but ill defined. At last however the usual Assam features of vast expanses of grassy vegetation, interrupted here and there with strips of jungle, presented themselves. The country is very low, entirely inundated during the rains, and almost uninhabited. Saul occurred toward that which may be considered the Toorai of these parts, but the trees were of no size.

Chicha-cotta is eighteen miles from Buxa, and is situated on a grassy plain; it is small and miserably stockaded, nor is there any appearance about the place indicative of comfort or security. To Koolta. We continued through nearly a desolate country, overrun with coarse grasses, until we came on the river, which is of considerable width, but fordable; we now found ourselves in the Cooch-Bihar territory, and were much struck with the contrast between its richly cultivated state, and the absolute desolation of that belonging to Bootan. We continued traversing a highly fertile country, teeming with population,

\* Plantains, jacks, mangoes, figs, oranges, &c., are found about the huts of Buxa.

until we reached those uncultivated portions of Assam, that are so frequent in the immediate vicinity of the Brahmaputra.

Our marches to Rangamutty were as follow :—

From Koolta to Bullumpore.

From Bullumpore to Kuldhooba.

From Kuldhooba to Burrumdungur.

From Burrumdungur to Rangamutty.

At Rangamutty, where we received every civility from the Bhoo-rawur, we took boat and arrived at Goalpara on the

Beyond this it is scarcely necessary to trace our progress. I have only to add, that but one death occurred during the time the Mission was absent.

*( To be continued. )*

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ART. VI.—*Report on the Museum of the Asiatic Society.*

*By Dr. WM. JAMESON.*

[The subjoined very important Report on the state of our Museum, forms a part of the Proceedings of April, but we deem it well deserving of the earliest publicity. During the few weeks Dr. Jameson held the office of Curator, his exertions have accomplished more than could be readily believed, in reducing the chaotic materials of the Museum into systematic arrangement and disposition. His suggestions will doubtless receive the attentive consideration they are so strongly entitled to, and we trust before long that our Museum will be guaranteed from such reproaches as Mr. Jameson now too justly inflicts on it. His accomplished successor, Dr. McClelland, has all the skill and zeal essential for success, but the means at his disposal are manifestly too limited to enable him to execute all the measures his judgment would dictate. We anxiously hope that the naturalists of the Society will be excited by Dr. Jameson's Report to consider of the best and readiest means for the establishment of a Museum befitting the first Scientific Institution in the East. As our funds have been heavily drawn on this season for the erection of a new suite of apartments, to accommodate our growing collections, we think it would be worthy of those who feel the importance of such ennobling pursuits, to come forward with the means for furnishing our Museum with every essential appurtenance of the best and most

endurable kind. We shall be happy to act as Trustees for a 'Museum Fund,' should our suggestions meet the approbation of those who understand and appreciate the object in view.—Eds.]

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In reporting upon the present state of the collection of the Asiatic Society, we have felt much disinclination, fearing lest by so doing we might be considered as attacking the proceedings of our predecessors; we however consider it our duty, from the place we now hold, and the more so as we leave this in a few days for the Upper Provinces, trusting that when the statement has been laid before the Society, active measures will be taken to improve its condition.

We shall first notice the *Minerals* and *Rocks*. In these two departments the collection is exceedingly rich as far as numbers are concerned. Of the former there are upwards of two thousand specimens, and of the latter probably upwards of four thousand; but the miserable condition in which they have been kept—packed in drawers one above another, without paper, or any other material intervening—has rendered many of them entirely useless and unfit to be placed in the collection. In particular we would mention the *Zeolites*, many of which originally must have been magnificent. The *Apophyllites* (a species of zeolite) are very fine, and still valuable specimens, and had they not been so much destroyed, the Society might have claimed the merit of possessing, of this particular variety, the finest specimen, probably, in the world. Most of the other specimens have been equally neglected, and many of value destroyed. In regard to labels, there were but few attached, and of these many wrong. The *Rocks*, of which there is a most magnificent and extensive collection, would have been doubly valuable if they had been furnished with labels, indicating the locality from whence they had been obtained; at present after a collection containing every variety has been laid aside for the Society's own Museum, the others, when named, will form valuable duplicates for exchanging. To this department of the Society's Museum no attention whatever has been paid, although probably the most important. Lying beneath one of the tables in the Museum there was a large collection, said to be sent by Dr. Helfer, but as not one of the specimens was labelled, that is intimating where found, we have not been able to make use of them. In fact such a collection is quite useless to a Society; and even if some important mineral should be found in it, the value of the discovery could not be followed up. It would be of importance to intimate this to individuals engaged in making such collections.

*Mammalia*.—The collection of quadrupeds consists of about seventy specimens, many of which are exceedingly good, and a few very rare, among which we would characterise the *Hylobates aibimanus*, *Hylobates hoolock*, *Ailurus refugens*, *Ictides albifrons*; but in this department the collection of the Society is very deficient, not containing above a fifth of the quadrupeds found in India. Moreover many specimens, from their bad condition, would require to be replaced as soon as possible.

*Birds*.—The number of birds prepared amount to upwards of six hundred specimens, and in addition to these there is a considerable collection in boxes, many specimens of which are not as yet in the Museum. Among the birds, there are some exceedingly rare and valuable specimens, and several new to science, which we shall now notice briefly. 1. *Larus kroicocephalus*. The discovery of this species is probably one of the most interesting which has been made in ornithology for some time. In size it is equal to the *Larus marinus* of Europe, and possesses in the head and neck colours

one of the principal characters essential to the genus *Kroicocephalus* of Eton, in every other character it is a true *Larus*; and as the colour of the head and neck disappear in winter, we have therefore this species representing in summer the genus *Kroicocephalus*, and in winter *Larus*; shewing the necessity of abandoning the former genus. The specimen in the Society's collection is partly in a state of change from the summer to the winter. In the Edinburgh Royal Museum there is another specimen in perfect summer plumage: these probably are the only two specimens known. The name we have adopted is one which we proposed to the Wernerian Society, being the generic one of Eton reduced to trivial value. Belonging to that interesting genus the *Leiothrix*, Swains. of which there is but one species described, there are two new species in the collection of the Society, in the Edinburgh Museum there is a third, and in the Zoological Society's Museum of London a fourth, all of which are peculiar to India, and thus the number of species is now increased to five, showing the necessity and importance of making new genera, if the characters presented are sufficiently marked, although at first only one species should be presented. We could enumerate a large series of genera which were represented a few years ago by one species only, but which now contain from three to twelve species. In a bird lately laid before the Society by Dr. Evans, and considered by him as a variety of the *Aquila Chryractor*, the Society has a new species belonging to the genera *Haliaeetus*; the only other specimen we have seen is in the collection of the Zoological Society of London. We cannot omit mentioning the *Eurylaimus Dathousæ* as exceedingly rare and valuable species, three specimens only being known to exist in collections. Many other novelties, some of them extremely interesting in illustrating ornithological geography could be pointed out, which however would extend our report to an undue length; we however may state that Dr. Helfer has sent lately to the Society a new *Chalcites*, and *Irena puella*, and *Calyptomina viridis*, both of which were supposed to be confined to the Asiatic Islands.

*Osteology.*—The Osteological Department of the Society's collection is small, but still there are several splendid skeletons. The magnificence of the Fossil Osteological collection cannot be too strongly pointed out; but it is much and deeply to be regretted that there is no proper accommodation for it; which we hope will soon be remedied by proper cases being provided, and placed in the new apartments now building, in order that the many unique and valuable specimens may be properly exposed to view.

In regard to the *Ithyological*, *Erpetological*, *Conchological*, &c. departments of the Society we have not had any leisure to examine, and therefore forbear at present giving any report. But as there is much room for improvement in the departments we have already noticed, we beg to offer a few suggestions.

*Minerals and Rocks.*—Before the collections of Minerals and Rocks can be generally useful, there must be proper means for exhibitions, and we hope soon to see cases fitted up on the plan we proposed, or any other which may be suggested, furnished to the rooms. The advantages in having collections of Rocks and Minerals arranged and labelled properly, would no doubt be of the greatest consequence, seeing that it would form the basis for comparison of any collections which may hereafter reach the Museum; and also be of use to individuals for comparing their own private collections. As far as it lay in our power, during the short space of time we have had, we have arranged the Minerals in the tables formerly occupied by eggs, birds' heads, &c. only temporary however, expecting that more suitable cases will be provided. The Rocks are still lying

exposed for want of accommodation, but a few of them so arranged that when cases are provided, they can be removed by any individual.\* The system we have followed is that of Werner, as improved by modern authors. If any member would now visit and see the extent of their Mineralogical collection, I am sure they would be convinced of the necessity of having proper cases.

The Bird cases since last Meeting have been fitted up with shelving, which has enabled us to arrange systematically the collection, and the system we have adopted is that of the Baron Cuvier. Moreover, in addition to the advantage derived in having a systematic arrangement, the cases will now contain three times as many specimens as they did formerly. To us it appears a most extraordinary idea, to suppose that objects of Natural History cannot be properly preserved in this country. No doubt in cases fitted up in the same manner as those of the Society at the present moment, they could not, either here or any where else; but if these cases were made air-tight, by lining the edges of the doors with chamois leather poisoned with arsenic, according to the plan adopted with the cases of many of the European collections, we would be bound to say, that the collections could be preserved nearly as well here as in Europe. At least this is a subject well worthy the attention of the Society.

In conclusion, we shall offer a few brief remarks in regard to the desiderata. To increase their collections, public bodies have generally adopted one plan, viz.—a memorial giving a brief account of the manner how to prepare, collect, and pack objects of Natural History, and at the same time pointing out those objects most to be desired. If such a memorial was got up under the auspices of this Society, and distributed among its numerous members and correspondents throughout India, the Society would not only possess for itself a collection in a very short time, but at the same time would have at its disposal, for making exchanges, a large series of duplicates; and in the space of a few years by so doing with the different collections in Europe, America, Cape, and Sydney, it would thus bring together, with little expense to itself, a collection which would vie with the various noble institutions on the European continent, and at the same time worthy of this the so-called City of Palaces. Before this can be done, a Catalogue of the collection must be made. Moreover the Society could in a series of tables exhibit by specimens, that is by bringing together the rocks of the different districts bordering on each other, the Geology of the whole of India, and thus in a manner supply that great desideratum, at least to individuals here, viz. the want of a Geological Map, and probably it might be the means of leading to this desirable object; an undertaking worthy of support from such an institution, and from the country at large.

W. J.

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\* Dr. McClelland informs us they have been once more swept into chaos by the unguarded hands of *assistants* since Mr. Jameson's departure. Nothing can more clearly prove the futility of attempting to do any thing in this department before proper cabinets are procured.—EDS.

ART. VII.—*Proceedings of the Asiatic Society.**Wednesday Evening, 6th March, 1839.*

At a Meeting held at the Grand Jury Room of the Supreme Court.

The Honorable Sir E. RYAN, President, in the chair.

The Proceedings of the last Meeting were read and confirmed.

The Honorable Sir H. SETON, the Rev. JOHN HENRY PRATT, Dr. WILLIAM JAMESON, Mr. E. THOMAS, Mr. J. W. LAIDLAY, and Mr. A. C. DUNLOP, proposed at the last Meeting, were ballotted for, and duly elected Members of the Society.

Read a letter from Mr. CHARLES RITTER, acknowledging his election as an honorary Member.

The Officiating Secretary apprized the Meeting of the departure of their Curator, Dr. GEORGE EVANS, to Europe; and after some discussion it was resolved that Dr. WILLIAM JAMESON be appointed to the office, on the same allowances as those drawn by his predecessor.

*Library.*

Read a letter from H. T. PRINSEP, Esq. forwarding for inspection Dr. ROBERT WIGHT's Illustrations of Indian Botany.

The following books were presented:—

Bulletin de la Société de Geographic, vol. 9th—*by the Society.*

On the Ovulum of Santalum, by WILLIAM GRIFFITHS, Esq.—*by the Author.*

Die Stupa's (Topes) and die Colosse Von Bamiyan, by CARL RITTER—*by the Author.*

Journal of the Royal Asiatic Society, No. 9—*by the Society.*

Proceedings of the Bombay Geographical Society for August, 1838—*by the Society.*

Ditto of the American Philosophical Society, Nos. 1, 2, and 3, from January to August 1838—*by the Society.*

5 Copies Alif Leila, vol. 1st in Arabic—*subscribed for by the Society.*

Lardner's Cyclopædia—Literary and Scientific Men, vol. 9th—*from the Booksellers.*

Read an application from PREMCHAUND Pundit, Editor of the "Nyeshadha," regarding the 2nd part of the work in Manuscript, and offering to making over the same to the Society, on condition of his being remunerated for his trouble in compilation.

Resolved that the application be referred to the Committee of Papers.

*Museum.*

A Gumsoor Battle Axe was presented by Mr. J. G. BALMAIN.

*Statistics.*

Read a letter from H. H. SPRY, Esq., Secretary to the Statistical Sub-Committee, intimating that in consequence of the Society's declining to publish the Documents compiled by them, they will no longer prosecute their researches.

The Annual Report for 1838, which had been presented on the 1st of January, was then read, and adopted by the Meeting.

*Secretaries' Annual Report.*

The indisposition and absence of the Rev. Mr. MALAN since his appointment, and the short period during which we have held the office of Officiating-Secretaries, will we trust constitute a sufficient apology for the incompleteness of the present anniversary notice.

We have endeavoured by a diligent perusal of the proceedings of the year just elapsed to become familiar with the state and prospects of the Society, and we have also

sought more detailed information from the gentlemen severally responsible for the Library, Finance, and Museum departments.

On the general statistics of the Society we have to state that the accession of Members to the Society during the year 1838 was as follows:—

Ordinary Members,	....	25
Honorary Members,	....	1
Associate Members,	....	1

The loss of Members by deaths, departures to Europe, and withdrawals, has been—by departure to Europe, Messrs. W. ADAM, A. COLVIN, H. WALTERS, Col. BURNLEY, and Mr. JAMES PRINSEP. By withdrawals, Messrs. W. BRUCE and W. DENT.

By deaths in India, Messrs. A. E. DOBBS and JOHN BELL, and in France Monsieur A JACQUET, an honorary Member, and one of the most distinguished Orientalists of the day.

We designedly forbear on this occasion from the attempt at any minute obituary notice of the Members whose deaths we so deeply lament. The decease of M. JACQUET was only announced at our last meeting. His friend and fellow labourer, EUGENE BURNOUF, in the letter which conveys this melancholy news, gives a touching narrative of the circumstances of M. JACQUET's malady and death. A victim to consumption, induced by his unremitting studies, he died at the age of 28, in the delusive confidence of revealing by his future labours much of what is still mysterious in the history and chronology of the Hindoo nations. A quarter of an hour before death he was still ardently pursuing his studies. In the homage paid to his memory in France, the Asiatic Society of Bengal most unanimously and profoundly concur.

#### *Publications.*

We have to state that during the past year the 4th and last volume of the "*Mahabharata*" has been the only work printed in the Oriental department. The volume will be immediately published, and will cost the Society between 4 and 5,000 Rupees. The liberality of Government has most opportunely enabled the Society to meet from its own resources this heavy outlay, which otherwise would have fallen on our respected Secretary, Mr. PRINSEP. The sale of the work in France has unfortunately proved far short of M. BURNOUF's sanguine predictions.

The publication of the "*Sharira Vidaya*," or translation of "Hooper's Anatomist's Vade Mecum," has been sanctioned by the Society in conjunction with Mr. MUIR, who has generously subscribed 1,000 Rupees for this special object. There is yet however much difficulty in this undertaking. The professional members of the Society consider the work wholly useless without plates, and the lowest estimate yet obtained places the cost of such illustrations at  $6 \times 250 = 1,500$  Rupees. A reference to Europe was evidently expedient to procure cheaper and better cuts than are obtainable in India, and for the result of such reference the work is now postponed.

The publication of the "*Shcrya-ul-Islam*" by the Newab TAHAWUR JUNG, has unfortunately been much retarded. The delay is attributable to the conjoint inactivity of the Printer and of the Moulavee employed to correct the proofs. Means are being taken however to accelerate the completion of the work. An advance of 800 Rupees has this month been made to the Printer, in pursuance of a resolution of the Committee of Papers and Finance.

The Transactions of the Society will soon be augmented by the publication of the 2nd Parts of the 19th and 20th Volumes. We may be pardoned for anticipating that the literary reputation of the Society will be well sustained in their pages. If the Society has been reproached with neglecting the Natural History of Asia, the part of the

Physical Researches now in the press, will, we are confident, more than remove that stigma. The bulk of the Physical Part will consist of Dr. M'CLELLAND's elaborate paper on "*Indian Cyprinids*."

In connexion with the subject of publications, we should not omit to notice two works by Members of the Society, to which Government has contributed either by subscription or by still more direct support. The first is the version by Mr. TORRENS of the ever-charming "*Alif Leila*." The second is the remarkable and valuable Cochin-Chinese Dictionary, by the Right Rev. the Bishop of Isauropolis, now Roman Catholic Bishop of the Diocese of Bengal.

#### *Antiquities.*

In antiquarian enterprisc, research, and discovery, the past year has been most prolific. Among the events of interest we notice in our records, we may particularize the liberal grant by Government for the erection of the Allahabad pillar—the receipt from the Rev. Mr. WILSON of fac-similes of the Girnar inscriptions—Mr. PRINSEP's most important discovery of the name of ANTIOCHUS in two of the edicts of ASHOKA—Mr. PRINSEP's translation of the religious edicts of ASHOKA, discovered in Gujerat and in Cuttack—and the discovery that the inscription of Junegurh related the circumstance of the repair of a bridge in the time of CHUNDRA GUPTA, by ASHOKA, his grandson.

To these let us add, the interesting fruits of Mr. KITTOE's Researches in Cuttack—the active and successful measures adopted by Government to procure fac-similes of the Junegurh and Girnaghur inscriptions—the verification by Lieut. POSTANS of Mr. PRINSEP's views as to the reading of the name of ANTIGONUS next to that of PTOLEMY in the 14th edict, in the Girnar inscriptions—the measures taken by Government to prevent the demolition of the Kanarah Temple—and, lastly, Professor LASSEN's simultaneous proposition of an alphabet for the Pali and Bactrian languages, nearly identical with that described by Mr. PRINSEP in the July number of the Journal. On even this disjointed and hasty glance, we may well be proud of the progress the Society has accomplished in the fulfilment of one of the chief objects of its institution. It will, we doubt not, be universally admitted that the Asiatic Society during the past year has justified its high name, and retained its natural position, as the most energetic and successful agent of antiquarian discovery in the East.

#### *Statistics.*

Owing to the lamented deaths of Sir B. MALKIN and Mr. BELL, the retirement of Messrs. WALTERS and ADAM, and the withdrawal of Messrs. BIGNEL, CURNIN, and M'CLINTOCK, the Committee was at the end of the year 1838 reduced to four Members, Messrs. EWART, SPRY, BAILLIE, and STEWART. Mr. W. P. GRANT has since been elected a Member.

It is understood that Dr. STEWART has been for some time engaged in tabulating translations of the Records of Native Mortality in Calcutta, with the view to illustrate the localities of disease in this city, and the effects of climate on the health of its inhabitants. Dr. SPRY has prepared a series of tables illustrating the state of education among different classes of Society in Bengal. Mr. EWART has ready for press some very valuable original tables connected with the currency and trade of Calcutta. The only paper which has yet appeared in common with the labors of this Committee, is the very important document by Mr. H. T. PRINSEP, on the decrement of juvenile European life in Bengal. This valuable contribution to vital statistics has already appeared in the Society's Journal.



The Statistical Committee have met with the most willing and efficient support from the Government, and from the Parent Society. Access has been granted to all official records connected with the subjects of finance, commerce, education, and judicial administration. The Society has already contributed 500 Rs. to defray any expenses incurred by the Committee. High expectations are consequently entertained as to the harvest to be reaped from so fertile a field, by such active labourers, and under such warm and constant encouragement. The form best suited for the publication of the documents already prepared has excited considerable discussion, and still awaits a final decision.

#### *Library.*

The Librarian has been kind enough to comply with our request for a detailed report of the accessions to our collection during the last year, and he has classified the entire under the heads of languages and subjects. We now beg leave to present his report, by which it appears that we have received,

Publications in English,	..	117
in French,	.. ..	31
in Latin,	.. ..	3
in German,	.. ..	5
in Dutch,	.. ..	2
in Persian,	.. ..	6
in Arabic,	.. ..	4
in Turkish,	.. ..	1

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Total, .. 174 up to the period of Mr. Csoma's Report.

On the last day of the old year, we had the pleasure of receiving from M. CASSIN the highly important consignments exhibited on the table at the last meeting.

199 vols. 4to. and 8vo.

109 Pamphlets.

The works in question embrace some of the most important and valuable publications in every department of Natural History.

The mode in which this supply has been obtained is also very gratifying, the expense having been defrayed by the sale of our Oriental Publications in Paris. It is pleasing to observe this reciprocation of benefits by the cultivation of apparently opposite pursuits—We have exchanged the ancient lore of the East, for the most modern and useful sciences of Europe. Each branch of our labors thus proves auxiliary to the other. The researches of the naturalist are promoted by the discoveries of the philologist and antiquarian, and thus, each in our particular sphere, we sustain the reputation and enhance the utility of a Society established for the universal purpose of investigating “whatever is performed by man or produced by nature” in the East.

#### *Museum of Natural History.*

Mr. EVANS has sent in an Annual Report, which will be published separately for your information.

#### *Miscellaneous.*

During the past year some miscellaneous passages in our history deserve to be recorded in our annual notice.

In January we had the gratification of witnessing the erection in our apartments of the bust of our distinguished associate, Professor WILSON. The feeling excited on

this occasion, led on the following month to the adoption of measures, by which we look forward to an early installation of the like remembrances of Sir Wm. JONES, of Mr. COLEBROOKE, and Dr. MILL. This is indeed an object worthy of a grateful and wise Society, and must excite in the present Members the ambition of ultimately deserving such inestimable rewards.

In February a despatch was received from the Court of Directors, ordering 40 copies of each number of the Society's Journal—an act of generous patronage most fitly bestowed on the periodical, as it was then conducted. It was moreover but the forerunner of still greater munificence, in the grant authorized in September of 500 Rupees per mensem for the encouragement of Oriental Publications.

Nor while we acknowledge this princely aid from Government, should we be silent on the liberality of some individual benefactors. Among these, Mr. MOIR stands pre-eminent—his subscription of 1000 Rupees to the expenses of the "*Sharira Vidya*" will we trust ere long be instrumental in placing a practical work on Anatomy within the reach of the hereditary physicians of the East. Another act of warm co-operation, and we have done. Let us commemorate the readiness with which Mr. JAMES PRINSEP sustained, by an outlay of 6,000 Rupees, the publication of the "*Mahabharata*," which would otherwise have necessarily been discontinued. For this we are fortunately enabled to indemnify Mr. PRINSEP, but he is not the less entitled to this grateful notice of his unrivalled liberality.

In conclusion of this very imperfect Report, we should have dwelt in due and deserved detail on the vast loss we have experienced in Mr. PRINSEP's departure to Europe, had not the subject been so fully and recently before the Society, and so perfectly dealt with in the President's address. We have now only to express our earnest hopes that in full health and spirit Mr. PRINSEP may soon return to the scenes of his brilliant and numerous triumphs. His absence must not however altogether nullify the movement he excited. It seems to us too that the best proof, of the esteem and affection in which we hold him, will be the perseverance in his pursuits, and in the support of his Journal, until his presence enables the Society to enjoy again the advantage of his inestimable labours.

(Signed)

J. C. C. SUTHERLAND,

W. B. O'SHAUGHNESSY, M. D.

Acting Secretaries.

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*Meteorological Register, kept at the Assay Office, for the Month of March, 1889.*

Day of the Month.	Forenoon, 10 a. m.					Afternoon, 4 p. m.																							
	Atmospheric Pressure.		Temperature.		Hygrometry.	Aqueous tension.		Atmospheric Pressure.		Hygrometry.	Aqueous tension.		Weather.																
	Old Standard Barometer.	Height at 32 Fah.	River water.	Well water.		Dew point.	Air.	Dew point.	Depression.		Differential thermometer.	Hair Hygrometer.	By Wet bulb.	By Hair Hygrometer.	Direction.	Wind.	Aspect of Sky.												
1	29,964	29,928	75.7	77.6	80.8	55.2	9.0	10.0	86	43	80	70	s.	e. 14	clear.	29,848	29,792	90.7	44.6	22.1	23.6	62	23	25	34	s.	e. 14	clear.	
2	996	902	75.6	77.4	80.5	54.1	10.0	11.7	87	43	83	64	s.	e. 1	do.	824	772	92.5	44.8	21.2	24.7	50	23	28	35	s.	e. 04	do.	
3	911	911	75.9	78.1	81.1	54.3	7.8	10.0	83	45	86	72	s.	e. 1	clear.	827	779	94.2	37.0	26.8	29.1	50	21	16	22	s.	e. 1	do.	
4	914	980	75.8	77.4	82.6	53.5	11.9	12.0	78	38	50	66	s.	w. 10	do.	759	711	92.4	42.6	25.5	26.4	57	23	40	58	s.	w. 1	do.	
5	846	820	80.4	78.3	81.4	55.2	5.0	5.2	85	50	77	69	s.	w. 2	cr. str. cldy.	711	678	91.9	47.3	16.9	17.1	76	19	28	40	s.	w. 1	overcast.	
6	981	981	82.4	78.1	84.3	55.0	5.1	8.9	88	48	78	73	w.n.w. 2	e. 14	clear.	591	545	93.8	43.0	22.9	23.4	63	19	26	35	e.n.e. 14	e. 14	clear.	
7	826	792	81.5	78.7	86.9	53.1	13.0	12.5	76	35	50	52	n.e. 10	do.	do.														
8	836	844	79.4	76.1	81.1	45.0	20.3	21.8	51	30	20	22	n. w. 34	clear.	clear.	760	714	88.5	42.1	23.9	21.4	50	22	18	22	o.	0	clear.	
9	898	876	81.3	75.0	81.3	55.0	8.0	7.8	87	43	65	72	s. w. 24	cr. str.	clear.	777	742	92.0	41.0	23.6	22.8	55	19	23	26	o. w. 14	o. 04	clear.	
10	948	928	81.4	78.9	83.4	55.0	6.1	5.6	93	45	72	84	s. w. 54	do.	do.	842	805	93.0	46.2	19.7	20.0	67	21	32	40	s. w. 14	s. e. 1	do.	
11	982	960	81.4	78.6	85.5	55.0	14.2	14.3	76	37	44	52	s. w. 54	do.	do.	860	819	92.3	40.0	22.6	24.0	60	18	25	31	s. e. 1	s. e. 1	cum. few.	
12	938	920	80.5	77.5	79.4	57.3	6.6	7.5	86	48	70	70	n. w. 2	clear.	clear.	820	782	90.6	49.2	17.5	17.0	75	26	37	51	w.n.w. 14	14	cr. cum. few.	
13	914	927	81.7	78.6	83.2	61.0	5.6	6.2	93	49	75	84	n. s. e. 2	clear.	clear.	832	792	91.9	45.0	16.6	16.1	76	26	41	52	s. w. 14	s. w. 14	do. fine.	
14	828	830	81.4	77.7	84.2	56.4	12.5	12.0	78	41	50	56	n. v. 2	clear.	clear.	670	651	93.1	46.6	25.2	23.7	64	21	19	36	s. w. 3	s. w. 3	do.	
15	913	884	81.3	78.8	84.3	56.4	12.8	13.3	76	49	48	52	s. w. 1	hazy.	hazy.	758	728	89.1	45.3	19.1	19.0	67	26	31	40	n. w. 5	n. w. 5	Showery.	
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Mean.	29,861	29,843	81.2	78.1	83.8	55.6	11.2	11.6	80	42	55	61	2	Between cl. and cldy.	2	Between cl. and cldy.	29,739	29,707	92.9	43.2	22.5	22.9	62	21	25	34	2	Between cl. and cldy.	2

# JOURNAL

OF

## THE ASIATIC SOCIETY.

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No. 88.—APRIL, 1839.

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ART. I.—*Journal of the Mission which visited Bootan, in 1837-38, under Captain R. BOILEAU PEMBERTON. By W. GRIFFITH, Esq. Madras Medical Establishment.*

(Continued from page 241.)

### PART II.

[*Remarks on the nature of the country, especially its vegetation, boundaries, and divisions—its government, population, sects, character, customs, manners, and diet—political relations.*]

The following remarks suggested themselves to me during the bird's eye view I had of Bootan; their superficiality is only to be excused by the shortness of my stay, the want of proper interpreters, the jealousy of the Booteas, and extreme mendacity of such of their Bengal subjects from whom, in my total ignorance of the Bootea language, information was alone to be expected. And as I had daily opportunities of seeing the constancy with which the head of the Mission amassed all available information, I contented myself with remarking on external rather than internal objects, on the face of nature, rather than on that of men. Bootan, I need scarcely observe, is a mountainous country, forming a considerable part of the most magnificent chain of mountains in the universe; in it are to be found all degrees of elevation, from 1000 to 25,000 feet. In its extent it is rather more limited than was supposed, since Capt. Pemberton has ascertained that the country to the eastward, which is ruled by the Towang Rajah, is directly dependent on, and forms a portion of the Lhasa government.

The boundaries of the country are, Thibet to the north ; the plains of Assam and Bengal to the south ; Sikkim to the west ; and the Kam-pa country to the east. Its greatest breadth will hence be about 90, and its greatest length about 210 miles.

The physical aspect of this country, so far as regards its most essential point—mountains, presents perhaps but little deviation from that of other parts of the Great Himalayan chain ; but on this point I am unable to give any information. Every variety of surface was met with, from bluff-headed to peaked highly angular summits. In some places the paths were built up the naked faces of precipices ; in others, very considerable elevations might be attained by very gradual ascents, over a sufficiently practicable country. The two most rugged and most peaked were, as might be expected, the two highest—Dongdola and Rodola : the others, which generally averaged 10,500 feet, were very easy. Of the rivers, which are in all cases mere mountain torrents, nothing need be said. The largest we saw was the Monass, which forms the principal drain of the eastern portion of Bootan. No lakes appear to occur : there is below Santagong a jheel of small extent, but it is of no depth, and does not derive its presence from springs or the embouchure of small tributaries. It abounded with water fowl, and was choked up with sedges, and a plant belonging to the family *Hydropeltide*, hitherto not, I believe, found in India. Neither is Bootan a country of valleys ; in fact, with the exception of those of Bhoomlungtung, Byagur, and Jaisa, we saw none worthy of bearing the name. That of Punukka owes its existence to the vagaries of the river, as its only level part has obviously at some previous time formed part of its bed. The three valleys otherwise mentioned are, if viewed in comparison with other valleys situated in similarly mountainous countries, perfectly insignificant, for they consist of a gentle slope from the bases of the contiguous hills to the bed of the draining stream. The valley of Tassisudon is probably of like extent with that of Punukka, but Turner's accounts are so little to be relied on, that even in a simple matter like this no just conclusion is to be formed. I have only to add, that the three valleys are represented as being close to some of the passes into Thibet : this alone is perhaps sufficient to account for their great elevation.

Hot springs occur one day's journey from Punukka, and appear to be the resort of many invalids, victims to the most frequent disease, lues venerea. From specimens procured by our guide, Chillong Soubah, there must be at least two springs ; of one the water is of a yellowish tint, and highly sulphureous ; that of the other is limpid, and possesses no sensible properties. I did not hear of the existence of such springs elsewhere.

Of the climate, which is necessarily so varied, it would be useless to attempt to give an account; indeed the only two places of the climate of which the mean could be given for even one month, are Tongsa and Punukka. The mean for the month of March at Tongsa may be estimated at  $56^{\circ} 3'$ , the maximum heat between the 6th and 21st instant being  $63^{\circ}$ , and the minimum  $51^{\circ}$ . I have elsewhere stated the results of the observations made at Punukka. Throughout the barren portions of the country, which are so generally limited to inconsiderable elevations, the heat must no doubt be great during the summer months; at Punukka in April the sun was found very incommoding after 9 A. M.; and as a proof of the heat at such elevations as 7000 feet in some places, I may advert to the culture of rice at, and above Tongsa. The ravines are, however, very narrow about this place, and the faces of the mountain on which the cultivation occurred had a western aspect.

In very many places, however, more abstracted from the influence of radiated heat, delightful climates may be found. It is curious, though not singular, that the best situations were always found occupied by Gylong villages. Considerable elevation is, in addition to other minor causes, requisite at least for a Bootea, during the summer months: thus the Gylong villages were rarely seen under 8000 feet, and oftener about 9000 feet; and the chiefs find a summer change of residence necessary, during which they repair to elevations varying from 7000 to 9000 feet.

The change in the Deb's residence from Punukka to Tassisudon in the summer, and vice versa in the winter, is to be accounted for, especially the latter change, on principles of equalization; that is, the ryots about the one place are obstinate enough to refuse supplies for more than six months; such at least was the story heard by us, although it is rendered doubtful, by the total want of regard evinced by the rulers of the land for the interest of their subjects. The most delightful climate we experienced was that of May at Chupeha, which is situated on the steep face of a mountain with a south west aspect, yet the temperature ranged from  $46^{\circ}$  to  $51^{\circ}$ . A week afterwards, and we were exposed to the unmitigated fierceness of a Bengal sun at the hottest time of the year.

The most disagreeable part of the climate of Bootan exists in the violence of the winds, more particularly in the valleys. The direction of these winds, which are very gusty, is invariably up the ravines, or contrary to the course of the draining torrents, no matter what direction these may have; the winds therefore are dependent upon local circumstances, as might be expected from the dryness of the

soil, and its effects on vegetation. The winds are more violent throughout the lower tracts than elsewhere, and as in many of these places they are enabled to supply themselves with dust, they often became very positively disagreeable, and formed no inconsiderable part of the annoyances we were subjected to during our residence at Punukka. These partial winds\* are frequently so violent as to unroof the houses; it must be remembered, however, that the roofs are generally mere shingles, kept in their places by large stones. During our stay at Punukka, the regal or sacred part of the roof was blown off; the clattering that ensued from the falling of the copper plates, mixed with the noise of the shingles and stones of other parts of the palace, was very great; a deputation was immediately sent from the palace to request that we would fire off no more guns near the palace, and we found out afterwards that we were looked upon with a very suspicious eye.

We were not much incommoded with rain, neither should I consider it to be abundant throughout the lower elevations, at least no part of the vegetation I saw in such tracts seemed to indicate even a small amount of moisture. We were only once delayed by snow, and on our return enjoyed uninterrupted fine weather until we reached Buxa, where, as might be expected from its proximity to the plains and the season, the weather was unsettled.

As regards quantity of vegetation, Bootan exhibits, it appears to me, considerable peculiarities. In the other parts of the Himalayan chain I have seen, and generally throughout India, the bases and lower portions of the mountains are the most thickly wooded, and it is generally a tolerably certain indication of elevation when less wooded tracts are met with; but in Bootan not only is the vegetation of the lower ranges contiguous to the plains unusually scanty throughout a considerable part of their extent, but throughout the interior it is generally absolutely barren within certain elevations. This scantiness at the base of the mountains is perhaps at its maximum due north from Gowahatti, in which direction the vegetation is almost entirely graminaceous; to the westward it certainly lessens, but even to the north of Rungpore (Bengal) the woods are thin, especially when contrasted with the Toorais of other portions; at the same time the vegetation of the lower ranges is in this direction nearly as dense as it is elsewhere. Of its extent to the eastward I have no actual evidence to offer; but as to the north of Jeypore there is a well defined Toorai, and

\* The general winds have, it would appear, the usual direction; that is, they blow from the plains.

as to the eastward again, it would appear to *again* become deficient: it probably is irregular in its distribution, and depends consequently on local causes.

But while there is such difference in the amount of vegetation along the tract at the base of the mountains, the vegetation on these up to an elevation of 1600—3500 feet is uniformly scanty, except to the westward, in which direction, as I have mentioned, they do not differ in absolute amount from the well wooded mountains to be seen elsewhere.

Between Dewangiri and Punukka we found that the surface of the interior below 5000 feet in elevation was uniformly very barren, and after crossing the ridge above Telagoung we found similar appearances, but with a very dissimilar vegetation, at elevations of from 7000 to 11,000 feet, but they were by no means so uniform or so general. Throughout the barren tracts\* of the first of the above portions of Bootan the vegetation consists for the most part of grasses, among which a few low shrubs occur. The arboreous vegetation is confined almost entirely to *Pinus longifolia*, which is very commonly much stunted. The barren tracts to the westward of Telagoung were remarked almost entirely along the Teemboo, the southern face of the ravine of which was generally remarkably barren, even at very considerable elevations. Grasses did not form here so predominant a portion, shrubs on the contrary abounded, and among these the most common perhaps was a species of *Rosa*, very much like the *R. sericea* of Royle's Illustrations.

In Bootan it is only at high elevations, and under certain circumstances, among which aspect and especially humidity are the most important, that the grand forests which have excited the admiration of all travellers in the Himalayas to the westward, make their appearance. The requisite elevation is scarcely ever less than 7000, and is generally about 8000—8500 feet; at such, oaks, magnolias, rhododendrons, and several species of firs attain to great perfection. Between, or on the borders of the woods, patches of swards, adorned in the spring with beautiful herbaceous plants are frequently met with, and form the prettiest object in the whole scenery of Bootan. The vegetation of such, and of much higher elevations, is generally well diversified, until indeed one reaches an elevation of 11,500 feet; at such I found it generally reduced to black firs, stunted junipers, and shrubby rhododendrons, the bulk, as regards amount of species,

\* These lower mountains are very frequently curiously marked with transverse ridges. These have much of the appearance of ancient terrace cultivation, but on inquiry I was assured that such was not their origin.



consisting of herbaceous plants, whose growth is confined to a very few congenial months, and which were almost all hid from my view by the heavy snow, so constant between the latter end of October and the commencement of May. Another striking feature in Bootan is the constancy with which southern faces of mountains are, especially towards their summits, bare of trees or shrubs; this it has in common with other parts of the Himalayas both to the westward, where it has struck all travellers, and to the eastward, as on the Mishmees. I am not prepared to state whether any satisfactory explanation of this has been given; it struck me to be due, in Bootan at least, to the searching severity of the winds, which are quite sufficient to keep down all luxuriance of vegetation. - Whatever the secondary causes may be, there can be no doubt that the primary one is due to the influence of the south-west monsoon, to which all these faces of the Himalayan mountains are freely exposed.

The higher the altitude the greater, as indeed might be expected, was the uniformity of vegetation, and it was only in such that any general features of vegetation could be said to occur. A very constant feature of high altitude, such as from 11,000 to 12,500 feet, existed in the black fir, a lofty tabularly branched tree of a very peculiar appearance, in comparison at least with other Bootan species, and which, when seen standing out in dark relief, might, from the very frequent mutilation of its lower branches, be mistaken at a distance for palm; with these there was as nearly a constant association of the same species of other plants. The most striking among the partial features of the vegetation of Bootan was presented to us by the three valleys, so often alluded to; these may well be called the region of pines of that country. The range of the three species was most distinct and very instructive, although the Smithian Pine, a little further to the westward, descended to a somewhat lower elevation than it did in the tract above mentioned.

Still more partial features were presented by the *Pinus excelsa*, and more especially by the *Pinus longifolia*, the distribution of both of which appears to depend on local causes. The latter species was not seen on our return, nor was there a vestige of a fir visible after reaching Chuka; no species but the long-leaved was seen below 5500 feet.

I have in the foregoing few remarks merely glanced at the most familiar features of the botany of Bootan. As the importance of strict determination has been much insisted on before correct views can be formed of the botanical geography of any country, I have purposely omitted all details, until the collection shall have been duly examined; but even when this has been done, the difficulties are almost insuper-

able, for although Roxburgh died thirty four years ago, and the number of plants indigenous to India has been increased fourfold since that time, the means exist of determining but a very few more than those described by Roxburgh himself. It is familiar to all botanists that of the 8000 species distributed eight or ten years since by the Honorable Company, not more than 1000 have yet received their promised share of elaboration.\*

Bootan is divided into provinces which are ruled by Pillos, of whom there are three—the Paro, Tongsa, and Tacca: they derive their names from their respective residences; the rank of the two first is, I believe, equal, and they are admitted into council, while that of Tacca Pillo is very inferior.

The provinces are again divided into districts, equivalent to Soubahships; of these there are several. The Soobah's jurisdictions through which we passed were those of Dewangiri, Tassgong, Tassangsee, Lenglung, and Byagur, all of which are in Tongsa Pillo's province. After leaving Tongsa we came into the province of Punukka, and after leaving this capital we came on the tract attached to that of Tassisudon, or as it is called Tassjeung. The Soobahs all exercise supreme jurisdiction within their own limits, but pay a certain annual amount of revenue to their respective Pillos. The Soobahs of Dewangiri and Buxa are of subordinate rank.

But besides these governors of provinces, and governors of districts, there are other officers of high rank, who assist in moving the machine of government; they do not however make good exemplifications of the proverb, "in the multitude of counsellors there is wisdom." The offices of these additional counsellors are as follow—the Tass Troom-poon, or warder of the palace of Tassisudon; the Puna Troom-poon of the palace of Punukka; and Wandipore Troom-poon of the castle of Wandipore; then there is the Lam Trimpe on the part of the Dhurma, and Deb Trimpe on the part of the Deb.

\* The following passage was erased from the proof of Dr. Griffith's M.S. in the office of the Secretary to Government. We insert it as a note, on Dr. Griffith's and our own responsibility, and in the confidence that Dr. Wallich can readily give a full and a satisfactory answer to the implied charges.—*Ens.*

"Had Dr. Wallich never been in India the matter would have been otherwise, as it would not then have been a matter of policy to remove every vestige of an Herbarium from the Botanic Gardens, and to publish a confused catalogue of names without characters. As the matter now stands, Indian botanists are reduced to this,—they must either give up all the advantages they possess by being in India, and wait until all the species, amounting to 3 or 4,000, named by Dr. Wallich have been described by others in Europe from dried, and in many cases very imperfect specimens, or they must in no case acknowledge the authority of any body to name an object without giving it a character, and publish such new species as they may deem to be new with their names and their descriptions."

The supreme authorities are the Dhurma and Deb Rajahs ; the latter representing the temporal government in its strictest sense, as his reign is generally short ; the former the spiritual in as strict a sense, for he is, although infinitely divisible, quite eternal. The immortality of the Dhurma is not so well known as that of the Lama of Thibet, it is nevertheless equally true ; both appear to have been firmly believed by Captain Turner, whose account of the behaviour and intelligence of the Grand Lama, an infant of some months old, is very amusing and characteristic. The present Dhurma is, as I have mentioned, the son of Tongsa Pillo, a curious coincidence.

The chief test of the authenticity of the infant in whom the Dhurma condescends to leave the regions of æther for those of gross spirits, consists in his recognising his former articles of wearing apparel, &c. ; and to avoid any supposition that might arise from the probability of any mortal child being struck with shewy gew-gaws, this child is bound to assert that they are actually his own ; if it does so, surely it is satisfactory evidence. The infant Dhurma may as well be found in the hut of the poorest peasant as in the residence of an officer of high rank, but I dare say, if the truth were known, he is usually made for the occasion.

When he has been completely tested he is removed to the palace, and his life thenceforward becomes one of almost absolute seclusion. Surrounded by hosts of priests, and in the apparent enjoyment of most things deemed desirable by a Bootea, he is nothing but a state prisoner, virtually sacrificed to state ordinances. Neither is it probable that he enjoys any power sufficient to recompense him for being cut off from the merry side of life, for if his teachers have been wise teachers, they probably rule him throughout. But all this holds good only on the supposition that his life is as really monastically rigid as those of some orders of Christian monks were not. We heard strange accounts, especially at Punukka, sufficient to suggest that a priest is not necessarily virtuous in Bootan more than any where else.

His revenues are, I believe, derived from certain lands in the plains, and above all from offerings. He is also said to trade, but none of them can derive much profit from commercial speculations.

It is in the Deb that the supreme authority as regards the internal economy of the country is vested. But supreme though he be called, as he can do nothing without consulting all the counsellors, including the Pillors, who have no cause to dread his displeasure, his power must be extremely limited, and very often disputed ; and, if it is remembered that he is always checked by those counsellors who are actually present with him, and that he holds no, or at least very little, territory

on the plains; and that a Pillo has no check on himself, that his province is perhaps remote from the capital, and that he has filled up all his offices with his own relations and friends, it is evident, I think, that the change from governor of a province to that of supreme ruler of the country must be attended with loss of power. Besides, the Deb is only expected to retain office for three years, at the end of which he is expected to retire, provided he be weak enough.

The present Deb, if indeed he now exists, has no authority out of Punukka, and not too much even in his own palace. He was formerly Tacca Pillo, and this seemed to be the grand source of complaint against him.

The chief object of the Deb, as is that of all his officers, is to accumulate money. The sources of this are plunder, fines, reversion of property to him by death of the owners (and this seems to be carried to a frightful extent), tributes from the Pillors, offerings on accepting office, trading, and the proceeds of lands in the plains; but this last source cannot yield much, since the occupation of the best part by Herr Govindh. Our Deb, in addition to his usual sources, added another during our visit, by robbing the Dhurma of all his presents. The revenues of the Pillors are derived principally from their Dooars, or territories in the plains, by plunder either of their own subjects, or those of the British government, fines, in short by every possible method.

Nothing can be said in favour of this many-headed government; each Deb, each Pillo, each Soobah, each officer in fact of high or low degree, is obstinately bent on enriching himself at the expense of his subjects or his inferiors; and their object is to do this as rapidly as possible, as removals are always probable, and are almost sure to depend upon a change of the Deb. There is no security for property, and not much for life, but fines are fortunately deemed more profitable than bloodshed, and, in short, the only safety of the lower orders consists in their extreme poverty. The whole proceedings of this government with the Mission were characterised by utter want of faith, honesty, and consideration. The trickery, intrigue, and falsehood could only be equalled by the supreme ignorance, presumption, and folly exhibited upon every occasion. Procrastination was a trump card in the game they played, mildness of deportment was pretty sure of inducing insolence, and they were only kept in decent order by perceiving that you were determined not to be trifled with.

I am not disposed to assign their behaviour to the nature of the present temporary government; it was only natural in an ignorant, very conceited people, who find that they are treated with distinguished consideration by the only power that admits them to an equality. The

preceding Deb, from convictions of interest, and from having tasted more than once of British liberality, might have treated the Mission with some consideration, but the issue as to business would doubtless have been the same. I regret much not being able to state more about the government of the country, and more especially its internal economy. The usual punishment for crimes is in fines, a method always resorted to wherever money is considered as the grand object. In Bootan I have little doubt but that the commission of grievous crimes would be encouraged, were the lower orders in condition to pay the fines.

I have before adverted to an instance of black treachery : that instance was furnished by a Mahomedan, Nuzeeb-ood Deen, a native of Calcutta ; who having accompanied a trader into Bootan had been detained and placed in a state of captivity for twelve years. By some fortunate neglect on the part of the Booteas in the palace, he contrived to gain admission to Capt. Pemberton ; and his tale was so consistent, and bore such evidences of truth, that Capt. Pemberton claimed him as a British subject ; and the justice of the claim was very strongly urged by the prevarication of the Booteas, who indeed finally admitted it. Nuzeeb-ood Deen returned to the palace, but very luckily for him, Capt. Pemberton, who suspected that the Booteas might dispose of him privily, insisted much that he should be forthcoming when he called for him, and wrote to the Deb to the same purpose ; yet even under these circumstances, it was unanimously agreed that he should be cut to pieces and thrown into the river, but they refrained from doing so from fear of the consequences. As soon as he was given up, which happened a day or two before our departure, he placed himself under Captain Pemberton, who advised him not to associate with Booteas, and above all to eat or drink nothing from their hands. Nuzeeb-ood Deen however was not proof against a cup presented to him by a boy with whom he had been very intimate during his captivity. The consequences were every symptom of having partaken of some narcotic poison ; he was saved by the action of powerful emetics, but did not recover for some time afterwards ; he was carried through the palace and throughout the first march on a Bootea's back.

The *population* of the country is certainly scanty, and indeed could not be otherwise under existing circumstances. Villages are very generally "few and far between," in addition to their being small. The only decently populated bits of country we saw about Santagong and Tamashoo. The valley of the Teemboo as far as Panga was also tolerably populous, but it must be remembered that this is the principal part of the great thoroughfare of the country. The palaces and

castles are the only places well inhabited, but the inmates might very advantageously be dispensed with, as they consist of idle priests in excess, and bullying followers; both too happy to live at the expense of the poor cultivators.

The causes of this scantiness of the population exist in polyandry, and one of its opposites *agyny*, in the bad government, and the filthy and licentious habits of the people. The great rarity of aged people struck us all very forcibly, and is a proof that whatever may be the proportion of births, the proportion of life is below average. The bad influence of polyandry is supposed to be counteracted by the idea, that the spouse of many will be faithful to the eldest so long as he may be present, and after him to the second, and so on;—such an idea is at best absurd, and as regards Bootan women, is positively ridiculous, their chastity not being of such a quality as to induce them to be particular as to relationship, or even acquaintance.

The expected celibacy of so large a portion of the inhabitants, although probably assumed in some degree, and which depends either on acceptance of office or on the course of education, must be very pernicious. The large number thus withdrawn from propagating—the only good in their power—would lead us to suppose that polygamy would be of much more likely occurrence than polyandry; and the custom is rendered still more paradoxical by the contrariety of custom observed amongst most other Asiatic people, who make polygamy almost an invariable consequence of worldly prosperity.

In very many places there is obviously an extreme disproportion of females to males, yet it would be too much to assume that there is a general disproportion, although the two causes above adverted to be would sanction such a belief, unnatural as it may supposed to be. We could not ascertain that the apparent disproportion of females was the result of unnatural conduct on the part of the Bootas, although in my opinion they are sufficiently capable of destroying either male or female offspring, did they consider it expedient to their interests.

Of the diseases, which in all countries form so essential a part of the causes tending to diminish population, I know nothing. The few patients I had at Punukka were all suffering from ~~an~~ *fever*, frequently in its worst form. Chillong Soobah assured me that such cases occur in the proportion of one in five.

The number of half-ruined villages would suggest the idea that the population was formerly more extensive than it now is. But it must be remembered that, in this as well as most other hilly parts of India, the population is partly migratory. In a country where agriculture is not understood, where no natural means exist for renovating the soil,

and no artificial ones are employed, the population must vary their abodes in accordance with means of subsistence. The only cause for surprise is that they should build such substantial houses; they may do so with a view of returning to them after the ground has been sufficiently fallowed.

*Education.* Of the course of this essence of the growth of the mind I can state nothing. If the assumption of the habits of priesthood be considered as the first step of education, it is rather extensive; but I doubt whether a Bootea boy may not wear these robes for years and then throw them off improved in no good, but in all vice. There is scarcely a village in Bootan in which some exterior decorations, as well as the whole air of the house, do not indicate it to be the favoured residence of a priest; yet I never heard the hum of scholars in any other place than Dewangiri, in which, and it is a curious coincidence, priests were comparatively uncommon.

The Booteas appear to have no caste; they are divided, however, into several sects, and in the account of the Persian sent into Bootan by Mr. Scott, whose account may be found in the fifteenth volume of the Asiatic Researches, as many as fifteen are enumerated. It does not appear, however, that the possession of the higher offices is confined to the higher sects; for Tongsa Pillo is known to be a man of a low sect, although he may be considered, from his station and connexions, the most powerful man in the country.

Most Booteas have much of the same appearance; to this however the people about Bhoomlungtung, Byagur, and Jaisa, as well as those about Rydang are marked exceptions, and have much more of what I imagine to be the Tartar appearance.\*

If we look at those sects which do not depend upon blood, but upon education or circumstances, we may divide the inhabitants into labourers, priests, idle retainers, and great men, which is in many places another word for tyrants. The labourers are better acquainted with poverty than any thing else, and are lucky in being allowed to have such a safeguard.

Perhaps the most numerous, and certainly the most pernicious class, is that of the Priests or Gylongs. Their number is really astonishing, particularly when compared with the population in general. Not only do they swarm in the castles and palaces, of which they occupy the best and most exalted parts, but they inhabit whole villages, which may be always recognised by the houses being somewhat white-washed, of a better than ordinary description, and always in the best and

\* The people again towards Buxa are of very distinct appearance, but this results from a tolerably free admixture of Bengalee blood.

coolest situations. Of their grades of rank I can say nothing, but much importance seems to depend upon due agedness. The highest were usually admitted to the interviews, and of course expected to be recompensed for the honour they did us; but as they were well contented with two or three rupees, their ideas cannot be said to be extravagant. They are perhaps rather more cleanly than other Bootas, and are reported to bathe publicly every week; but although we frequently saw processions in single-files, in all cases headed by a small drum, a sort of gong, a clarionet, and an incense bearer, the priests following according to their seniority, the youngest novice ending the tail, I am not convinced but that the bathing part may be more nominal than actual; one thing at least is certain, that the duty, whatever it was, was agreeable, otherwise we should not have seen the processions so often.

They are kept in order in the castles by hide whips, in the use of which some of the brethren are neither sparing nor discriminating. The dress is becoming, consisting of a sleeveless tunic, generally of a chocolate colour, and edged with black or yellow. They are certainly better off than any other class: their chief duty is to be idle, to feast at the expense of the country, and at most, to tell their beads and recite mutterings.

The idle retainers form also a large portion, though by no means equal to that of the priests. As little can be said in the favour of these as in that of those, but they have one disadvantage in not being able to make use of their religion as a cloak for evil deeds. In these two classes all the most able-bodied men in the country are absorbed: they are taught to be idle and to become oppressors, and what is very bad in such a thinly populated country, they learn to look upon the ordinance of marriage, and its usual consequences, as a bar to their own interest. Of the great men I can only say that their influence is undeviatingly directed to the furtherance of their interests; they become governors to oppress, not to protect the governed—they rule by misrule; and as being the sources of the two great evils I have just mentioned—priests and retainers—they are themselves the greatest curse that ever was inflicted upon a poor country.

Of the moral qualities of the Bootas it is not in my power to give a pleasing account. To the lower orders I am disposed to give credit for much cheerfulness, even under their most depressed circumstances, and generally for considerable honesty. The only instances of theft that occurred did so on our approach to the Capital. How strange, that where all that should be good, and all that is great is congregated, there is little to be found but sheer vice; and how strange, that



where good examples alone should be led, bad examples alone are followed.

To the higher orders I cannot attribute the possession of a single good quality. They are utter strangers to truth, they are greedy beggars, they are wholly familiar with rapacity and craftiness, and the will of working evil. This censure applies only to those with whom we had personal intercourse; it would be perhaps unfair to include the Soobahs, whom we only saw once, in such a flattering picture, but it certainly would not be unreasonable; and I must make one exception in favour of Bullumboo, the Soobah of Dewangiri, and he was the only man of any rank that we had reason to be friendly towards and to respect. In morale they appeared to me to be inferior to all ordinary Hill tribes, on whom a Bootea would look with ineffable contempt; and although their houses are generally better, and although they actually have castles and places called palaces, and although the elders of the land dress in fine cloths and gaudy silks, and possess money, ponies, mules, and slaves, I am disposed to consider them as inferior even to the naked Naga.

They are not even courageous. I am inclined to rank courage among physical rather than moral qualities, yet it could not so be classified in the consideration of a Bootea, in whom other physical qualities are well developed. I therefore consider it among those other qualities which, as I have said, are absent in Bootan. A Bootea is a great boaster, but a small performer. All the accounts I heard of their reputed courage were ludicrous. Turner mentions seriously that one desperate revolution superinduced the death of one man in battle; and we were told that in the late protracted one, the only sufferers were two sick people who were unable to escape from a burning house. In a military point of view they could only make up for their deficiency in numbers by an excess of courage and of perseverance under difficulties. They are not even well versed in the use of their national weapons. The Gourkha Subahdar who accompanied the Mission looked on them with the utmost contempt, and this knowledge he had gained by long experience. In Mr. Scott's time a handful of Assamese sebundies would take stronghold after stronghold, and lead off all the tenants, excepting the defenders who had run away, as captives; and very lately 700 Booteas, with every advantage of ground, were totally routed by seventy of the same sebundies. Their courage may therefore be written down as entirely imaginary.

Their ideas of religion appear to be very confused; religion with them consisting, as indeed it may do among other more civilised people, of certain external forms, such as counting beads, and mutter-

ing sacred sentences. The people throughout are remarkably superstitious, believing in an innumerable host of spirits, whose residences they dare not pass on horseback; and while they are near these abodes they keep the tenant at bay with volleys of incantations. The offerings to these spirits are usually flowers, or bits of rag; this practice they have in common with most of the tribes to the extreme east of Assam.

Of any marriage ceremonies I could not hear; but as chastity would appear to be unknown, no particular forms are probably required; nor do I think that there is a particular class of prostitutes. We all had opportunities of remarking the gross indelicacy of Bootea women; of this and of their extreme amiableness, the custom of polyandry is a very sufficient cause. So far as I could see, there is no distinction of rank among Bootea women, and those only are saved from the performance of menial duties who are incapacitated by sickness or age.

If the account given by Mr. Scott's Persian of the ceremonies attendant on birth be true, another sufficient cause exists for scantiness of population, as well as for a disproportion of women. He asserts that the second day after birth both child and mother are plunged into the nearest river; but so great is the dislike of a Bootea for this element, that I am inclined to discredit the account, and more especially as regards the mother.

The disposal of corpses is much the same as among the Hindoos: the ashes of the body are collected, and are, I believe, thrown into the nearest river. The ceremonies, of course, begin and end with a donation to the officiating priest. The only part of them I witnessed was the burning, and this only in one instance; it was done in a slovenly and disgusting manner.

Of the social habits, little favourable could be said in any place where the women are looked on as inferior beings, and used as slaves. The men generally are excessively idle, and spend most of their time in drinking *chong*, for the preparation of which, as well as that of arrack, there are provisions in most houses. I do not think I ever saw a male Bootea employed, except indeed those who acted as coolies. All the work in doors and out of doors is done by women, to whom about Punukka Assamese slaves are added. The men are great admirers of basking in the sun, and even prefer sitting shivering in the cold to active employment.

I need scarcely add that both sexes are in all their habits inexpressibly filthy. The women in their extreme indelicacy form a marked contrast with such other Hill tribes as I am acquainted with.

The only use either sex make of water is in the preparation of food

or of spirits—no water ever comes into contact with any part of their person ; they scarcely ever change their clothes, especially the woollen ones. The people about Bhoomlungtung are far the dirtiest, and as they wear dark woollen cloths, rendered still darker by long accumulation of smoke and dirt, they look more like representations of natives of Pandemonium, than of any place on the earth's surface.

As they, at least the official part, are very assuming, so does state enter largely into all their proceedings. All our interviews with them were conducted with all possible state on their part ; and that exhibited to us at Tongsa and Punukka, was striking enough, and will ever after form in my mind as bitter a satire upon state as one could well wish. The effect was much lowered by the usual Asiatic want of arrangement, by an assumption of superiority among the inferiors (probably enough at the instance of their superiors), and by the admixture of the *profanum vulgus*, who had no opportunity of hiding inherent dirt under fine robes. On these occasions the behaviour of the chief was certainly gentlemanly, but the impression was soon obliterated by a messenger overtaking us, probably on our return, for another watch, or another telescope, or any other thing. In personal appearance I did not observe much difference between the higher and the lower orders, with the exception of the ex-Pillo of Tongsa, who seemed to have the best blood in the country concentrated in him. The presents given as returns of the magnificent gifts of the Governor General were beggarly ; and yet there was a good deal of parade in their exhibition. To us narrow silk scarfs were always given, occasionally varied with a foot and a half of blanket. The scarfs are habitual gifts among all the upper classes, and very generally form the inner envelope of letters.

Fine woollens and embroidered China silks form the dress of the nobles ; thick cotton or woollen doublets or tunics are common to every body else, but the chiefs probably have similar dresses in private, at least their principal officers certainly have ; and the only difference in such cases is the belt, from which the *dha* is on occasions suspended these are embroidered, and have a rich appearance. The dress of all is certainly cumbrous, especially when the peculiarly Chinese boots are donned. The boots of the higher orders are certainly not made in Bootan ; those of the lower orders consisted of a foot of some skin, with party-coloured woollen leggins, which lie above the calf. They are worn by both sexes.

The general receptacle for odds and ends, and a most capacious one it is, is between the skin and the doublet. Into this, which (consequent to one side being formed by the body) is not of the cleanest description,

every thing is thrust, from a handful of rice to a walnut, from a live fish to a bit of half putrid dried meat. Tobacco is carried in a small pouch suspended from one side.

A *dha*, or straight sword of a heavy description, is worn by all who can afford it, and the belt of this secures the loose doublet about the waist, and prevents the innumerable deposits therein from falling down. Those who cannot wear *dhas* from poverty, wear ridiculous looking knives, which dangling from the belt have a very absurd appearance. It is lucky that the people are not quarrelsome, and not inclined to resist the followers of chiefs, otherwise from the men being so generally armed, and so generally addicted to drinking, assaults might be expected to be of common occurrence; I only saw however one instance in which a man had been wounded. I certainly shuddered at times, expecting every moment to see adverse parties multiply each other by division; but latterly I was persuaded that cutting blows were rarely resorted to. The end of these disputes, which barring the blows were very fierce, was always brought about by the arrival of some third person, who by espousing one, espoused the stronger cause, and when this was done the weaker withdrew, or was made to withdraw by blows with the flat side of the weapon.

The accoutrements of a man of war differ, so far as his mere dress goes, in nothing. His defences consist of a well quilted iron skull-cap, which, when out of danger, is worn slung on the back; lappets are attached to it which defend the face—perhaps from cold. They also carry circular leathern shields, apparently of rather good manufacture. Their weapons of defence are first the *dha*, which is a heavy unwieldy weapon, without any guard. They are worn on the right side, but this to us awkward mode of wearing does not hinder a Bootea from disengaging his weapon readily, the sheath being first seized by the left hand. A blow from this weapon must cause a desperate wound, and judging from their quarrels, in which not a vestige of any skill in self-defence was shewn, the first blow, when actually struck, must decide the matter. Their fire arms, which are all matchlocks, and which vary in size from musketoons to huge wall pieces, are contemptible: they are of Chinese manufacture. Their powder, which they manufacture themselves, is powerless; indeed in one sense it may be considered as positively lessening power, for Captain Pemberton and Lieut. Blake ascertained that in ordinary charges it could not cause the discharge of the wad, and hence it actually weakened the cap. To remedy this badness they put in very large charges, but after all they seem to depend more on the effect of the noise than on that of the missile, for so little reliance is placed on this, that the marksman is

said to follow up the discharge by the piece by the discharge of a stone. It is likewise said that few venture to take aim except with the stone; they generally attach the gun to a tree, and without pointing it consider that they have performed a dangerous feat by causing its discharge. All the musketeers I saw, even when there was no ball in the gun, certainly averted their faces very studiously when the due fizzing of the powder warned them that the explosion would soon come on.

The most common weapon next the *dka* is the bow: this we only saw practised at Dewangiri, and the result was not alarming. The bows are longer than ordinary, at least so they appeared to my inexperienced eyes. It must be remembered that they do not, as in some more civilised places, fire at marks the size of an ordinary house. The mark which we saw was a small battledoor-shaped piece of wood, the distance was 150 yards, and the situation of the mark was pointed out by branches of trees; scarcely an arrow alighted within reasonable distance, yet the mark bore several marks, which we knew were made for the occasion. Each archer was very noisy in applauding his own skill, and challenging the others to equal it.

The dress of the women likewise consists of a loose garment, and is very similar to that worn by Hill tribes to the eastward of Assam. They have very few ornaments: the chief ones consist of a plate of silver fastened round the head, and crossing the upper part of the forehead, wire ear-rings of large dimensions, and peculiar rings fastened to a straight silver wire and worn projecting beyond the shoulder. They appear to be fond of flowers, and frequently decorate themselves with garlands, particularly of the scarlet rhododendron and the weeping willow.

The diet of the lower orders is very, very poor; they appear to live entirely on grain of an inferior nature, or in the wheat districts on coarse, abominably dirty chowpatties. There can be little doubt but that in many places they are not unfrequently much pinched by want.

The chiefs and their followers, and the inmates generally of the castles, live chiefly on rice brought from the plains; they likewise consume much dried fish, and very likely not a little dried meat, which they prepare by means of fire and smoke. They are as strict in their ideas of not eating flesh of living animals as the Burmese are; and they are beyond doubt very fond of animal diet: the salt is I believe brought from Thibet: they eat with the hand.

Their beverages are in the first place tea, but this is I believe used only by persons of some rank or property: they procure this from

Thibet, in the form of huge flat cakes: it does not possess a particle of aroma. Still more common is the beverage called *runga pat*, which may be likewise used for the tea; if their accounts can be relied on it is prepared from the leaf of a pear or medlar. I had no anxiety to taste it as it was of a muddy appearance and reddish colour.

Of intoxicating fluids they have two; one of these is merely fermented, and is known by the name of *chong*; it is a vile preparation from rice, made in the same manner, but very inferior in quality to that used by the Singphos. To this drink, which is not strong, they are immoderately addicted, and it generally is carried with them on journeys in large horns made from the horns of the *Mithan*.

The distilled liquor I had one opportunity of tasting; it was very clear, and much resembled weak whisky, as the Soobah had I imagine diluted it prior to distribution to the spectators.

The *political relations* of the country are as limited as the boundaries. With *Sikkim* they appear to have no intercourse. In the *Kampas* to the eastward there is some reason to believe that they pay an annual tribute. That they are tributary indirectly to *Lhasa*, and now directly to *China*, there can be no doubt, although the official people most strenuously denied it. It was affirmed indeed that a considerable time ago the Chinese were in actual possession of the country, but relinquished it finally on account of its poverty. *China* also exercises its authority in inflicting fines on them, and keeps guards on all the passes into *Thibet*. The tribute is taken I believe annually to *Lhasa* accompanied with an envoy. With the *British* government its chief relations have existed owing to the occupation of certain tracts in the plains called *Dooars*, from their being situated near the passes into the mountains. These tracts are of considerable extent, and are held by the *Booteas* on toleration, as the tribute they are under the obligation to pay is not only so small in amount as to be quite nominal, but is generally allowed to lapse into arrears.

In assigning the continuation of the possession of these tracts where-ever an accession of dominion was gained, the *British* government acted with its usual liberal policy; but this liberality has been so little appreciated by the people of *Bootan*, that the system, as it has worked hitherto, has been fraught with mischief; it has been most positively injurious to the territories in the plains, and it is, I think, injurious to *Bootan* itself.

We had ample opportunities of observing the extremity of misrule to which the *Dooars* in *Assam* as well as those in *Rungpore* are subjected by the infamous government of the *Booteas*, and it was the more striking from the contrast presented by our *Assamese* territories,

and as much so, by those of Cooch Behar. The crossing of a river eighty yards wide is sufficient to carry one from a desert into a country, every inch of which is highly cultivated; yet the richness of the soil is in favour of the tracts immediately contiguous to the Hills, and such are, in Assam at least, especially esteemed by the most laborious part of the population, the Kacharies; and were it not for this predilection in favour of these tracts, and the short-sightedness peculiar to a native population, by which immunity from taxation is preferred to security of property, the Assamese Dooars would rapidly become totally depopulated.

A gift long granted as a favour, in the eyes of an Asiatic, is soon considered as a right; and although the Bootea government has received some severe lessons in the shape of capturing their impregnable places, and of a resumption of portion of the Plain tracts, yet the free and quick restoration of the same on apologies having been made, with copious professions of better behaviour in future, has been attended with a very different result from that which would be occasioned by gratitude. The very severe lesson which they were taught in 1836, in which they were completely disgraced by being defeated by a handful of sebundies, and then punished by losing a Dooar, has taught them nothing. That very same Dooar, perhaps too liberally restored, has been for some months seizable for arrears of tribute. Nor is this all; since that restoration it would appear that their officers have become more than usually insolent. I think that it may fairly be assumed, that they argue on the certainty of restoration, so that a good foray might possibly, if its consequences were only temporary resumption, be a source of profit to them. By the plan of allowing barbarians to hold country in the plains, the inhabitants of those plains lose a portion of their most fertile soil; many of them are besides exposed to all the inconveniences and dangers of an unsettled frontier, for such must such a frontier be;\* and hitherto it has not been attended, at least in many places, with the expected effect of securing the friendship of the Booteas, and the quiet of the frontier.

But no argument can place the matter in a clearer light than the facts connected with Herr Govindh, a subject of Bootan, but who is now independent both of Bootan and of the English government, and who therefore enjoys considerable tracts of country without paying any thing for them; nor can any thing more forcibly point out the weakness of the Bootea nation, for not only does Herr Govindh keep them in effectual check, but he has, I believe, offered to take all the Dooars

\* Occupation of such tracts is very favourable to the carrying off of slaves, an habitual practice I have no doubt with the Booteas.

from them, if the government will allow him to pay 40,000 Rupees a year as tribute.

It acts injuriously on Bootan by diminishing the energies of its inhabitants, and suppressing the development of those resources which every habitable country may be supposed to possess. It must be remembered that the cultivation of the Plain tracts is not, as in some other instances, carried on by the inhabitants of the mountains, but by the natives of the Plains, who after reaping the produce of their labour appear to be compelled to take it to the first station in the Hills, from which it is distributed to the appointed places.

In all cases of entreaty for restoration it has been urged that the inhabitants of Bootan cannot subsist without these tracts, but they forget that by labouring in their own country they might supply themselves either with grain, or the means of purchasing it; and further, that the supplies drawn from the Plains are only enjoyed by the chiefs and their followers.

Some distress would doubtless result from immediate and final resumption, but this distress would be confined to the better orders, and would be a due punishment to them; it would in a short time be abundantly counteracted by the reduction of the Gylongs, and by the compulsion of a great number of idle hands to work for subsistence. It would also, I think, have a beneficial effect in lessening internal commotions. The ambition or rapacity of a chief is now readily seconded by the greediness of his idle followers, but were these necessitated to become agriculturists they would certainly not respond very readily to his call; as matters now stand, in short, there is a ruinous drainage of a very fertile tract of country, without any sort of return whatever; for the revenue derived from one Dooar during, a short season that it remained in our hands was amply beyond all proportion to the tribute; and it may fairly, I think, be stated that a country which draws every thing from another, and makes no return, may be compared to a parasite, the removal of which is always desirable, and very frequently essential. The Bootan government has been invariably treated with great liberality by the greatest power in the East, and how has it requited it? It has requited it by the rejection of a treaty which could only be productive of advantage to them, by shuffling mendacity, by tampering with British subjects, and by inconsiderate conduct to a British Mission, evinced in many other ways than that of opening its dâks. They object to forwarding communications to Lhasa, they object to British traders entering their country, and, in fine, they object to every thing that is reasonable, and that would be mutually advantageous. In short,



they shewed themselves to be ignorant, greedy barbarians, such as should be punished first, and commanded afterwards.

The objection raised against the resumption of the Dooars, on the plea that no check will then exist on the Booteas, is one contrived to meet expediciencies: it has never been attended with the supposed effect. The affair of Herr Govindh, and the recent victory at Silka-bhari are convincing proofs that the Booteas may easily be kept within their own limits. And even arguing the necessity of an increased military force, it must not be forgotten that the same tract which now yields us nothing but a few debased coins, a few inferior ponies, with abundance of disputes and law suits, would in a very short time become equal in richness to any of the neighbouring tracts, rich as these undoubtedly are.

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### PART III.

[*Natural productions, agriculture, domestic animals, arts, and commerce.*]

Few wild quadrupeds were seen by us in Bootan. Tigers, leopards, and elephants are to be found on the lower ranges, and probably the former straggle up to as considerable a height as they do to the westward. The chief beasts of prey in the interior are bears, but they do not seem to be numerous, and foxes of large size and great beauty: these last are confined to considerable elevations, and none were seen under 8000 feet.

Monkeys as usual abound on the lower ranges, on which the *Hoolock* of Assam likewise occurs. Some long-tailed monkeys occurred above Bulphai, 8200 feet above the sea; and in January I likewise saw a flock of noble ones not far from Tongsa, at an elevation of 5800 feet; these were white, and in form and size resembled the Langoors. Among wild ruminants, I may mention the barking deer, which however scarcely ascend above 4000 feet, and the musk deer, the most valuable wild animal of the country. It would appear to be rather common on the higher ranges, as several skins were brought to us from Punukka; the price for us, of a perfect one, that is without the musk, being five rupees.

The smaller animals that came under our notice were a species, I believe, of *Lagomys*, which Lieut. Blake found dead on the path, one or two animals of the weasel kind, and rats which swarm in very many of the houses.

Three or four species of squirrel were likewise procured, all from elevations of 5500 feet, yet all were likewise natives of Assam. The

most striking one is a black one, with a whitish belly, measuring, including the tail, nearly three feet.\*

The variety of birds is, of course, considerable, but the lower ranges seem to be by far the most productive; on these jungle fowl and two species of black pheasant are found. The raven is found throughout, but the very familiar crow or jackdaw never leaves the plains, and never leaves populous places. Throughout the higher portions of Bootan it has as noisy, but scarcely possibly as mischievous a substitute in a red-legged crow. This is common in the three elevated valleys, and not rare elsewhere at elevations of 8000 to 9500 feet: and below these it is scarcely to be seen. Cuckoos, larks, magpies, jays, and sparrows were the chief European forms met with, but except the latter, perhaps, all were of different species from the birds known by those names in Europe.

The cuckoo is rather widely dispersed. I first heard it about Punukka, and subsequently along the Teemboo, at an elevation of 7000 feet; below this height, at least in this direction, its peculiarly pleasing voice was not heard, although I think I saw the bird considerably lower. With the magpie, which has much of the plumage of the European bird, but a shorter tail, we became familiar at Bhoomlungtung, but lost it at Jaisa. The jay, a figure of which may be seen in Mr. Royle's Illustrations, was found pretty constantly throughout the wooded tracts between 5500 to 7000 feet; it is a noisy, but not a very wary bird. Larks were very common in the elevated valleys, and afforded us some good shooting; in habits, plumage, and voice they are to an uninitiated eye the prototypes of the bird so well known in Europe. In the same valleys Syrases were common. Wild fowl are, as might be expected, rare; the only place where they occurred in tolerable plenty was in the jheel below Santagong. The most destructive and numerous bird is the wild pigeon, which is to be found in plenty in almost every village, and in literal swarms in the castles and palaces: they do a great deal of damage to the poor ryots, who are not allowed to destroy them, on account of their being sacred. This exclusion holds good very strictly about the residences of the chiefs; and, although the villagers were in all cases delighted to see them shot, yet they keep no check on their increase, as they have no means of destroying them, and appear never to have thought of doing so by means of their eggs. At Byagur, the place of this bird was supplied by another very curiously marked species, which, it is said, likewise occurs about Simla.

\* *Sciurus beng-morjeus*, McCl.

None of the wild birds are made subservient to use ; indeed the natives appear to be very deficient in means for procuring them. The sacredness of life may be one reason, but even the most superstitious will eat any bird one shoots, provided it be large enough to promise a substantial repast. .

The same remark is applicable to fish, which are common in most streams below 4000 feet. The two most common are the *Bookhar*, which is scarcely found higher than 2000 feet, and the *Adoe*, which is found as high as 4000 feet, and perhaps higher, but its habits render it difficult to see. The *Bookhar* abounds in the Deo Nuddee below Dewangiri ; it is from the sport it affords, and the great readiness with which it takes a fly, to be considered as the trout of India. The *Adoe* is said to refuse all bait, and I have found this to be the case not only in this instance, but in all those which have a similarly situated mouth, such as the *Sentoosee*, *Gurriah*, and *Nepoorah* of Assam. At Punukka, where the *Adoe* is plentiful, it is caught by nooses ; such as were so caught were all small, and the young anglers were obviously afraid of detection. At this place I saw a solitary instance of the use of a casting net, but I suspect that it was under authority ; elsewhere I observed none even of the ordinary rude expedients for catching fish. Both of the above fish are nutritious food, and are so plentiful that they really might form a valuable acquisition to the miserable diet of the lower classes ; but this would not suit the benevolent ideas of the priests, who however appear to eat stinking dried fish from the Plains with great sang froid. To the poor in Bootan every thing is denied. Bees appear to be plentiful, but their buildings are passed with indifference by the lazy Bootea.

Of the vegetable productions that occur naturally in Bootan, the application for purposes of life is confined to timber, fuel, and dyes.\* Of the various kinds of timber trees I am quite ignorant ; they are used chiefly for rafters, planks, and troughs, either for aqueducts or for mangers. A great part of the planking is derived from fir trees, which are always preferred for fuel. Of the turpentine procurable from their various species of *Pinus* they seem to make no use, so that they are ignorant of one great value of these valuable trees ; that of the *Pinus excelsa* is very abundant, and highly fragrant. In the lower ranges the bamboo becomes of almost universal application, and constitutes the greater portion of the huts of the inhabitants of these districts ; baskets of various sizes, and implements for clearing the rice from the husk by agitation, &c. are likewise manufactured from it.

\* Although the *Bogh Puttur*, or path, is found in abundance on the higher ranges, yet it is not resorted to for furnishing an article of trade. The tree is a species of birch, and the thin flakes of its bark are used in the composition of *hookah* snakes.

In similar places rattans are in demand, and several valuable sorts may be procured. They form the fastening of all the bamboo work, are used in some places to secure the roofs from the effects of the violence of the winds, and form a great portion of the baskets in which loads are in this country universally carried. These are very convenient receptacles, forming a rather narrow parallelogram; they are frequently covered with hides, they open at the top, and are the most convenient hill baskets I have hitherto seen.

The Booteas depend on the plains for supplies of betel-nuts, otherwise they might advantageously cultivate the tree on many of the lower ranges. So far as I had an opportunity of judging, they possess few wild palms of any description, excepting rattans; I observed one, which grows on inaccessible places as high as 2000 feet, and which will probably prove new, but I did not succeed in obtaining the specimen requisite for actually determining whether it is so or not. *Ficus elastica*, the caoutchouc tree, occurs about Dewangiri, but not in abundance, and may be expected to occur throughout greater part of the ranges between the Plains and an elevation of 3000 feet. They are aware of the properties of the juice, and use it to make vessels formed from split bamboos, water-proof. The Simool tree likewise occurs within similar elevations, but they make no use of it, although in Assam the cotton is used for the manufacture of a very light and excessively warm cloth, excellently adapted for quilting.

A solitary mango tree occurs here and there in villages even as high as 4000 feet. The finest occurs at Punukka, in the royal gardens, which are emblematic of the poverty and want of horticultural skill in Bootan. It bears its flowers there at a time when the fruit is fully ripe in the Plains.

Jack trees occur every where about the villages on the lower ranges, and is one of the few fruit trees from which they derive any gratification. These trees thrive remarkably well at elevations of 2000 feet, particularly if within the influence of the Plains.

In villages at similar elevations two or three species of fig may be found, but the fruit is not edible; no oranges are cultivated with a view to the market; a few occur in some of the villages; the tree does not occur above 5500 feet, and in such altitudes it requires a sheltered, sunny place. The oranges which we received as presents, all came from the Plains. With the orange, the shaddock also occurs in tolerable frequency.

One of the most common fruit trees is the pomegranate, it does not thrive however above an elevation of 4000 feet: I saw no fruit on

the trees, which were however loaded with flowers; very fine ones occur about Punukka.

They likewise possess peaches, (perhaps the almond) and pear trees; but I am unable to say of what nature the fruit may be; we saw the trees during their flowering season.

The Bheir also occurs at low elevations; and in the gardens of Punukka I observed another species, forming a handsome good sized tree, but like most of the others, it was not bearing fruit. In the same garden there is cultivated a species of *Diospyros* with edible fruit, which also I did not see, and in fact we did not appear to have been in Bootan during the fruit season. The only fruit which we enjoyed were walnuts; we procured these only at Punukka, most of them in presents from the Deb, and a few by purchase, but these were of inferior quality; these walnuts are very good, and would be much better were care taken at the time of gathering. The trees are said to be cultivated in orchards at considerable elevations, but we saw no attempt at any thing of the sort, although we met with a few isolated trees here and there.

On the lower ranges, but scarcely above 3000 feet, the papaw occurs, but so far as I could see did not promise much return. Pine-apples, which occur so profusely on the Khasy hills, and are of so much use to the natives, are very rare in Bootan, as well as in those parts of the Dooars which we crossed.

On our return, we met with a fruit which promised under improved cultivation to be agreeable enough; it was about the size of a pigeon's egg, with a large smooth shining black seed; in flavour it approached somewhat to the Sappadillo, to the natural family of which it would seem to belong. The only ornamental tree to which the Booteas are particularly attached is the weeping cypress: these occur about all the castles and palaces, and especially about religious buildings. It is as ornamental a tree as can be well conceived, and as it thrives between elevations of 5000 to 7000 feet, I was very anxious to obtain seed for introduction into England; but all that I did obtain were bad, and I imagine that the female tree was alone met with. Of the gramineous plants found wild in Bootan no use seems to be made; wherever such plants are in requisition for thatching, the Plains are resorted to, as these, at least under the admirable management of the Bootea government, abound with *Oollookher*, *Kagara*, *Megala*, *Nol*, and *Iko-ra*. The plants of the hills themselves are chiefly coarse species of *Andropogon*, not serviceable for thatching; among these the lemon grass occurs abundantly. I am not aware whether the natives of these mountains use any plants occurring naturally as *vegetables*, cooked or uncooked; I

never saw any of that scrambling into the jungle on the part of the coolies which so generally occurs in Assam and Burmah, where every second or third plant is a favourite dish.

Of their medicinal plants I am quite ignorant. Our guide, Chillonig Soobah, who had a great leaning to the practice of physic, assured me that the Booteas were quite ignorant of any medicine whatever; but this is so contrary to the prevailing practice among barbarous and semi-barbarous nations, that I place no confidence in the assertion.

Of the mineral productions of the country I had no opportunity of learning any thing. The only article of this nature that I saw turned to account was clay for pottery; and this was only met with at Punukka. In short, whatever the resources of the country are, one thing is at least certain, that they have not yet been developed; and I give the greater part of the nation credit for being amongst the most idle and most useless on the face of the globe.

Of the agriculture of Bootan little is to be said, as so very large a proportion of the supplies is derived from the Plains. The state in which the little agriculture is, that is carried on, argues as little in favour of the amount of agricultural skill they possess, as the uncultivated state of the Dooars does in favour of their numerical extent, or of that of their Plain subjects.

Of *Cerealia*, or culmiferous plants, they have the following sorts: rice, wheat, barley, raggy, millet, maize; and of farinaceous grains, not the produce of culmiferous plants, they have buckwheat; and of *Atriplex*, one or two species of the leguminous grains. They cultivate one or two species of *Phaseolus*, one of which is the *Phaseolus*, Max; the Oror, *Cytisus Casan*; the Pea, *Pisum sativum*.

The only oily seeded plant I saw, and of this only fragments, was the *Tel*, *Sesamum orientale*; I saw no reason however for supposing that they manufactured this oil themselves.

Of the culmiferous plants, rice forms the staple article of food, and is perhaps exclusively used by the chiefs and their adherents, and the very numerous establishments of priests. It is only the staple article viewing the Dooars as forming part of Bootan, for in the interior the proportion borne by this grain to that of either wheat or barley is very small.

Most of the spots available from situation and elevation are cultivated in rice, but in all I saw, judging from the remains of the stubble, the crops must have been small. The cultivation is conducted in the ordinary manner, as is likewise the mode of preparing the slopes for irrigation, or in other words, terracing: as might be expected it is generally a summer crop, and in all places of sufficient elevation, is

made to alternate with winter crops of wheat or barley. The highest elevation at which we saw it cultivated was about Tongsa, to the north of which village there is a slope cultivated with it from an altitude of 5500 feet to one nearly of 7000 feet.

It is principally used boiled in the ordinary manner, and in the preparation of their fermented and spirituous liquors. They do not seem to prepare it for eating in the dry state, as is so generally done by Hindoos. Wheat is perhaps the most common grain cultivated in the interior, yet I saw no instance of the promise of fine crops; it is cultivated as low as 3500 feet, and as high as 9000 feet, but the fields we saw at this elevation were miserably poor, from the effects of the blackness of the winds. No particular steps are taken to favour its growth, except in the three elevated valleys, where manure is employed from some attention to agriculture being absolutely indispensable. The grain is, I think, of inferior quality; it is principally eaten in the shape of chowpatties, or cakes of heated dough. The flour is ground in mills turned by water, but the meal is badly cleaned.

Barley is nearly of equally extensive cultivation, and I think arrives to somewhat greater perfection than wheat; the cultivation is precisely the same, and probably its application. Two or three sorts occur; of these the finest indisputably is a six-rowed barley, but I am unable to say whether it is identical with the *Hordeum hexastichon*, the bear or bigg of Scotland. This sort occurred in great perfection along the ravine of the Teemboo, especially about Chupcha; it was the only crop, really worthy of the name that we saw in the country.

Of the remaining grains of this nature, Raggy.\* *Bobosa* of Assam, is the most common; it is of a very inferior nature, and is only used as a makeshift. Millet and maize are so limited in extent, as not to be worth consideration.

Of the other farinaceous grains, buckwheat is the only one cultivated to any extent; it occurs throughout the greater part of Bootan, but especially about 4000 feet. This grain is either a great favourite with all Hill people, or it is of such easy cultivation as to compensate for its inferiority to some others. The Booteas do not appear to feed their cattle on it, and ours by no means approved of it. It is probably used as a bread corn.

The species of *Atriplex*, and one or two of a nearly allied genus, *Chenopodium*, are scarcely worth notice. They occur in Bootan, as in most other mountainous countries in the East, and are more valuable as affording sorts of spinach than for the grains. Equally unworthy

\* *Cleusine Coracana*.

of notice are the leguminous grains of Bootan ; and the few species I saw of the produce appeared to me more probably derived from the Plains than from any labour of their own. The only actual cultivation of such I saw was a small plantation of oror below Benka or Tassgong, and this we were told was more with a view to the produce of lac than dāl ; and of the pea, I saw one flourishing field of small extent between Tumashoo and Oongar.

Of their various other " plants cultivated as vegetables for the table," I am quite as ignorant ; every thing in fact is derived from the Plains. We did not even meet with yams or *kuchos*, both of which I have seen among other Hill people in great perfection. They are unaware of the value of the potatoe.

Every body has heard of Bootan turnips, but very few have, I imagine, seen them. With the exception of a few we obtained at Dewangiri we saw none, nor when we reached the interior did we ever hear of any. There is no doubt however that excellent turnip seeds have been sent to some from Bootan, but whether from this *bhote ka moolkh* or the far finer one to the westward, I cannot state ; I only state their extreme rarity, so far as the Mission was concerned. Far more common is the *Mola*, or radish, which I suspect Turner mistook for turnips, for one has only to imagine that an actual Bootan radish is a real Bootan turnip, and it is so. The Bootan radishes grow to a large size, but they are very coarse and spongy, and heavy of digestion even to a Hindoo stomach. The cultivation chiefly occurs between 5000 to 7000 feet.

Of plantains they possess a few specimens, which may be seen struggling for existence as high as 3500 feet. I did not even see any of the wild plantain, easily distinguishable from the white powder with which the under surface of the leaves is covered, and its large stature. This is common on the Himalayan range to the eastward, and ascends as high as 5000 feet.

Of that most useful family the Gourd family, I saw no sorts under cultivation. As they depend on the Plains for all that in their opinion makes life tolerable, so do they depend upon their jungles for all flowers to which they may have a fancy, or which may be considered as agreeable for offerings. There is no such thing as a flower garden in the whole parts of the country we saw. The royal gardens at Punukka are scarcely an acre in extent, and stretch along the river from the bridge to the village. It was made originally with a view to use, never for ornament, and possesses now neither the one nor the other recommendation, although it has an Assamese gardener: oranges, shaddocks, pomegranates, the mango, jack, bheir, &c. &c. are to be found



in it. The Booteas shew some taste in their selection of wild flowers, which is more than can be said for the natives of Bengal, who approve of such vile things as *Ganda*, and *Champa*, and many other equally strong or equally gaudy productions. With Booteas rhododendrons, especially the scarlet and the white arboreous sorts, are favourites, and I observed formed the greater part of some offerings lying in the presence of the Dhurma.

The only cotton, and it was a miserable specimen, that I saw, I have mentioned as occurring along the Monass; yet we were told that a good deal was cultivated in similar places throughout Bootan. That we saw none is accounted for by the bulk of the population wearing woollen cloths, and by the remainder obtaining their supplies from the Plains. No plants were observed used for making cordage, the ropes used for fixing the loads being either made of twisted rattan, or horse-hair. On emergencies the bearers resort to the jungles, in which some very tenacious creepers may be found; but they appear to prefer the species of *Daphne* for this purpose, as the inhabitants of Upper Assam do the *Ood-dal*, a species of *Sterculia*.

No sugar is cultivated in Bootan; a few solitary specimens occurring about villages being the only specimens we saw. The cane itself is imported from the Plains, as well as ghoor. The same is equally applicable to tobacco, large quantities of which must be consumed, as all the men are great smokers.

They do not appear to me to be great pân eaters; their supplies of this are also derived from that source, which they do not scruple to drain so freely. A few straggling plants of hemp are to be met with amongst most villages at rather low elevations, but I never saw any to an extent sufficient to warrant me in supposing that any use was made of it.

Of plants cultivated for dyeing, I am not aware that any cultivation is carried on. At Phullung, one villager was attempting to rear a few plants of the wild indigo, so much used in Upper Assam, and which I have elsewhere stated is a species of *Ruellia*. Of this plant which appears to abound in colouring material of a deeper, but less brilliant hue than that of indigo, I have not been able to meet with any account that can be depended on. I have seen that in one of the volumes of the Transactions of the Agricultural Society it is mentioned as *Ruellia carnosa*: no good authority for the name is given, and on that of the book itself few, I imagine, will be willing to adopt it.

The most common dye in Bootan is that furnished by the *mungisth*, it appears also to be the favourite colour. As the supply obtained from the jungles is plentiful, no means are resorted too to cultivate it. It

forms one of the few articles of export from the country, and is generally exchanged for dried fish. In Bootan at least two species are used, one of these is Roxburgh's *Rubia mungista*. Of the different species of *Rubia* very little is known, and that little is a good deal confused. From Mr. Royle's account it would appear that the article *Munjeeth* is the produce alone of *Rubia cordifolia* (*R mungistha* Roxb.) The two species used in Bootan are very distinct, and very general constituents of other mountainous floras; one of them has leaves without stalks.

Agriculture being in such a poor state, we need not look for improvement in the implements by which it is carried on. The plough is a lumbering article, on the ordinary Indian principle, and the others are equally bad imitations; but as the Bootas pride themselves on being warriors, they are not inclined to turn their swords into ploughshares, and until this is done no improvement can be expected. Manures, so far as I had opportunities of judging, are chiefly confined to the three great valleys; they consisted chiefly of rotten fir leaves, and appeared to me to be of a very poor description. In these parts ashes of stubble and weeds are likewise spread over the surface, but the greatest portion of labour was expended in pulverising the surface. The natives likewise make use of the accumulation of filth under their houses, which judging from the depth of the layer is not always removed annually. This is excellent manure, and is principally used about the little plots of ground attached to most of the villages.

Of fences they are generally very regardless, or at best, place them where they are of no use. Thus the yards of many of the houses, and in some parts what are called gardens, are surrounded with stone walls; some few rising crops are protected by branches of thorny shrubs, but generally the only defence exists in the shape of a herd-boy, who is regardful only of damage done by his own charge.

In domestic animals they cannot be said to be rich. Chowry tailed cows certainly are not common, and would appear to be kept chiefly by the officers of high rank. As their range is restricted to very high elevations, they must be in Bootan of very limited utility. I only saw one sufficiently close to ascertain what kind of creature it was, and I was much disappointed in finding it an heavy, clumsy-looking animal; the specimen, however, was not a fine one. The only herds seen by the Mission were at elevations of nearly 10,000 feet. The Chowry tails exported to the Plains probably come from Thibet; and judging from those which we saw, they are of very inferior quality. The cattle are used as beasts of burden.

A much finer animal is the *Mithun*; this is the same as the Mithun

of the Mishmees, or the animal so known in those parts to the Assamese by that name, but is very different from the Mithun of the Meekir hills. This animal is not uncommon: the finest we saw were at Dewangiri, and none were seen after leaving Tongsa. Nothing can exceed the appearance of a fine bull; it appears to me intermediate between the buffalo and the English bull, but the cows have much less of the heavy appearance so characteristic of the buffalo. Their temper is remarkably fine, and their voices or lowing very peculiar, resembling a good deal some of the cries of the elephant. I am not aware that they are of much use to the natives: the oxen are employed at the plough. As the Booteas do not seem to care for milk, they are probably kept with a view to sacrifice, which is with an Asiatic not unfrequently another word for feasting.

The other breed which they possess, and which we only saw between Pুনুকা and the Plains, assimilates much to the common cattle of Bengal; it is however a much larger and a much finer animal.

Sheep are not very common: the most we saw were rams, which formed a standing part of the rassist. The ewes are used by the Kampas as beasts of burden, but I am not aware that they are of any use to the Booteas. Throughout Bootan I only saw two flocks.

Goats are common enough, and appear to be of the ordinary Plain breed. We saw no *Khussies*, at least live ones, unless I except the six shawl goats sent by the former Deb as presents to the Governor General.

All these animals are turned out during the day, either alone, or attended by boys. The cattle are picketted at night either in yards or about the villages: the goats find their own quarters in the ground floors of their owner's houses. Either no fodder at all is given, or they are provided with coarse straw, which evidently requires great effort to be eaten. During the rains their condition is much bettered; in the cold weather it is bad enough, as the looks of the beasts testify.

Pigs of ordinary customs are common enough, and were the only animals I saw slaughtered: they are kept with more care than either ponies or cows. They are generally treated to a wash once a day, consisting of a decoction of herbs, of which the common stinging nettle appears to be a favourite, and radish peelings. Most of the pigs we saw engrossed the tender cares of the women, who certainly paid much more attention to them than they would appear to do to their own children. They have peculiar cries well known by the pigs, who are generally very obedient, particularly if they see the wash-tub; at night they also occupy the ground floors. The ponies of Bootan are sufficiently well known, and are I think much over-estimated. They

are very inferior to the Ghoomts of Simla, in size, strength, and appearance. Like all such creatures they are spirited, and sufficiently headstrong: they understand their duties perfectly, and are orderly enough on a line of march, unless the road is particularly easy. Very few first class ponies are to be found in Bootan, and none are to be obtained except, perhaps, at most exorbitant prices. The Bootanese patronise nothing but stallions, the mares being almost exclusively used for breeding or for carrying loads; in such cases they are not led, but follow their leader quietly. Ridden ponies are always led; in difficult ascents they are assisted by pushing up, and in descents they are equally assisted by vigorous pulling at the tail. They form a part of all out of door ceremonials, and are dressed out with gay trappings; their switch tails are then converted into regular cock-tails, and ornamented with chowrys. Three or four ponies were selected as presents to the Mission, but as the hour approached for presenting them, the liberality of the Deb rapidly fell, and one alone was given to the Governor General. This creature never reached the Plains, for after falling twice, once a height of 15 to 20 feet, it expired above Buxa: we heard afterward that it had been very ill for a long time, so that the Deb thought it a capital opportunity of getting rid of him.

The mules are fine, and of much more reasonable price than the ponies: they are chiefly kept for riding, and are mostly of good size.

Both ponies and mules are stabled and provided with litters, not as may be supposed of the cleanest description. Their food varies a good deal; on some rare occasions they partake of Indian corn and wild tares; still better off are those which have participated in some religious ceremonies—for these, the green corn of the poor ryot is not considered too good; generally, however, they are fed on the worm wood, which is so common throughout Bootan below 5500 feet, and which is cut up, and then boiled; and in some places they are fed on the young boiled leaves of an oak, not unlike the celebrated English tree. We saw few in good condition. It is probable enough that the ponies of the Deb and his chief ministers are occasionally treated to paddy husks, as the Deb very graciously sent us a handful or two of this nutritious material, in compliance with our requests for some grain for our ponies. Of grass they are deprived except during the rains, although Doab grass is to be found about Punukka in sufficiency to feed six or seven ponies a day.

The ordinary dog appears to have been brought from the Plains, but its pariah qualities are not improved, neither is its condition. Of this, one was so convinced, that he took advantage of our escort, and returned to his native country with us, evidently highly pleased at

his escape, and very grateful to us for our good offices. Many of the better orders keep Tartar dogs : these are large, shaggy, powerful beasts, apparently very fierce, and the most incessant barkers I ever met with; they are always kept chained up. At a white face they appear perfectly furious, but perhaps they rely on the chain. Turner says they are not so bad if one is armed with a bludgeon. Mr. Blake found that in almost every instance their eyes were of different colours.

Of domestic birds, the common fowl is the only one : in many places it reaches considerable perfection ; about the capital the breed is as bad as can be imagined. They all appear to be low-bred, and the old birds, especially the cocks, are generally lame from corns. Their crows are most curious, and very unlike those of any other variety I know of ; it is of inordinate length, and when once commenced can not be stopped, for fright only changes it to a hasty gobble. The bird, while he is undergoing the process, walks along with neck and tail at full stretch, and with his beak wide open, totally absorbed in the business. No care is taken of the fowls, or at most, they are allowed to stand round when rice is cleared or pounded.

They have no ducks or geese, a want they share with all the mountainous tribes I have seen. A peacock is occasionally to be seen in the castles, and at Tongsa we saw one associated with a tame jacana.

*Fine Arts.*—The ordinary form of houses in Bootan is that of a rather narrow oblong, disproportionately high, building : the better order are rather irregular in shape. They are built either of slabs of stone, generally unhewn, or of mud well beaten down ; the walls in all cases are of considerable thickness, and almost universally slope inwards. They are for oriental houses well provided with windows, and are further furnished with small verandahs, of which the Booteas seem very fond. There is little or no ornamental work about them, with the exception of those infested by priests, in which there is generally a rather ornamental verandah. The roofs throughout the interior are of bad construction ; they are formed of loose shingles, merely retained in their places by heavy stones placed on the top of each ; this necessarily requires a very small slope, but even small as it is, the whole roof occasionally slips off. In some few places where bamboos are available the roofs are formed by bamboo mats, placed in several layers, and secured either by stones or rattans. In the better order of houses the great perviousness of the roof is compensated for by the imperviousness of the ceiling of the uppermost story, which is well laid down with mud ; houses situated near the plains, where proper grasses are obtainable are thatched : (the most common grass is the Oollookher, *Saccharum cylindricum*), such roofs from their slope,

thickness, and projecting eaves are excellent. The generality of houses have a court-yard in front surrounded by a stone or mud wall, the entrance to which is, or has at one time been, furnished with a stout door. Access to the first floor, (for the ground floor is invariably occupied by pigs, goats, &c.,) is gained by a rude sort of stair, intermediate between real stairs and ladders, and rather dangerous: a greater degree of safety is sometimes insured by the presence of a banister. Each story is divided into several apartments, which are generally defective in height; no regularity in their distribution appears to be ever observed; they are not provided with chimneys, and in many instances we found the smoke almost intolerable.

The houses of the poorer orders, situated near the plains, are miserable habitations, but still are better than those in common use in Bengal and Assam, in as much as they are built on muchowns.

The castles and palaces are buildings of a much superior nature; indeed it is said that they are erected by Thibetans or Chinese. They are of immense size, varying a good deal in form, according to the nature of the ground on which they are built, and which is invariably a spur or tongue of land situated between the junction of two streams. If the ground be even, the form chosen seems to be parallelogrammic, but if it be uneven, it has no form at all. They are, particularly in the latter case, ornamented with towers and other defences, either forming part of the building or detached from it.

The national walls and roofs are preserved; the former are of great thickness, pierced in the lower part with narrow, utterly inefficient loop-holes. In the interior there are one or two large court-yards. The first and second stories are the chiefly inhabited ones, the ground floor, however, is not so profaned as in other houses. Most of them are ornamented with a raised square or oblong tower or building, in which\*  
\* \* take up their quarters. That of Punukka is the largest and loftiest, consisting of several stories, and several roofs gradually decreasing in size—an obvious imitation, except in the straightness of the roofs, of the Chinese form; it is in part covered with copper, as the Booteas assured us, gilt.

All these large buildings, as well as the summer-houses attached to them, the houses of recluses, or active priests, the resting houses of chiefs, and religious edifices of every kind or description, are white-washed, and most are ornamented with a belt of red ochre, not far from the roof. The residences of the great men, and some of the religious edifices, are distinguished by a folded gilt umbrella stuck on the top, resembling a long narrow bell, rather than that for which it is intended.

In none do there appear to be any particular accommodations for sleeping, but in each house there is a *cloacus*. One room is set apart for a cook-room, and constitutes the principal inconvenience in a Bootea house; no use is made of the uppermost story for this purpose, as the Booteas consider it sacred; and as they have no chimneys, out of pure reverence they are content to bear smoke in its blackest and most pungent forms. Their fire-places, that is for cooking, are good and powerful; these are likewise used as furnaces for their stills. A good representation is given of them in Turner's Bootan. The flooring of the houses is generally good, of many really excellent; the doors are folding, and the fastenings of the windows of similar construction; the only very deficient part of a good Bootea house exists in the stairs and want of chimneys.

To the castles, stables are appended; but in spite of their being deprived of this copious source of filth and vermin, the deficiency is made up by the number of inhabitants.

Of their religious edifices, some are of picturesque appearance, being ornamented with carved window-frames and verandahs. The most common are the pagodas, which approach in form to the ordinary Boodhistical forms, such, at least, as are universal throughout Burmah. Those of Bootan are, however, vastly inferior in size, form, and construction, and are mostly such as an ordinary Burmese peasant would be ashamed of building. They are built of slabs of unhewn stone, and are not much ornamented, particularly as they are not provided with a red belt. The handsomest and the largest\* we saw was that close to Chinjipjee, this was ornamented with small pagodas at each corner, and had the umbrella, which was of curious form, garnished with bells, with the usual long tongues. In the upper portion each face had a nose of portentous dimensions, and two Chinese eyes. I am not aware whether, as in Burmah, they contain images or not, but slabs of inscribed slate are very generally let into their sides.† Appended to these are long walls of poor construction covered with roofs; on each they bear inscriptions, and in some instances paintings situated in recesses. The other forms generally occur as small square buildings; they are either built up over large idols or are empty, but decorated with paintings of gods, much resembling, especially in gaudiness, the common sorts of Hindoo deities; or they contain the peculiar cylinders which contain incantations, and which are constantly, or at

\* The name of this, *Chiotackari kocho*.

† The pagodas are always surrounded by poles either of bamboo or fir, to which are attached longitudinally long strips of coarse cotton cloths, entirely covered with inscriptions.

least ought to be, kept in motion by the action of water. In some places where running streams are not obtainable, as in the Soobah's houses, these are revolved by the hand.

There is nothing particular in the construction of their flour mills, which are very small; the pivot is vertically attached at the bottom to an horizontal water wheel, and passing above through two horizontal stones, of which the upper one alone revolves, the flour is hindered from falling off the under stone by the person in attendance.

Of bridges they have two kinds, the suspension and wooden; the latter are, I think, of better construction than the former, although not of equal ingenuity. The finest suspension bridge in Bootan is that across the Monass, below Tassgong, and has a span of about sixty yards. The chains are slight, and the links too long; the masonry by which the chains are supported is massive, and built into tall respectable looking towers. The motion is very considerable. The great fault in this bridge, and in this respect it is inferior to that of Chicka, is that its bottom or platform is not flat, but forms the segment of a circle, and is continuous with the sides, which are made of bamboo matting.

The wooden bridges, which are thrown over all the second class torrents, are solid looking, and impress one with the idea of great strength. Considerable pains are taken in the selection of such spots where the span is less, and where solid abutments either exist, or may be readily made. The supports are large beams placed in pairs, with a cross timber between each, and which pass through the abutments, on which towers are erected for the purpose of giving stability. The beams gradually increase in length from below upwards, so that each projects somewhat beyond that immediately below it. On the upper pair, which form a slightly inclined plane, planks are placed. As the upper beams only project over perhaps one-third of the span, the centre of the bridge is made up of horizontal beams and planks; if quite complete the bridge is covered with a chopper, and provided on either side with a stout open balustrade. Small streams are crossed by planks, or timbers, the upper surface of which is rendered plane. From the consideration of their buildings it would appear that they possess considerable architectural genius;\* but we were told that all those of superior construction are built by Thibetans or Chinese; this was certainly the case with the bridge erecting over the Deo Nuddee, not far from Dewangiri. As long as nature supplies rocks of easy and perfect cleav-

\* Turner in mentioning their aqueducts draws a comparison between the Booteas and the wonderful ancients; he compares a few wooden troughs, applied end to end, and so badly constructed that one kick would demolish considerable portions, to those masterpieces of master minds which laugh at time.



age, the houses are built of such materials, and these are used perhaps in all cases in the constructions of rank or sacred character. In many places mud is resorted to; the mud is pressed tightly between planks, and then assiduously beaten down by feet and clubs; in this they shew great dexterity, five or six persons, chiefly women beating at once a piece of mud of small dimensions. The mud is beaten down on that which has been previously so treated, so that when they come to any height, there must be considerable danger of falling, particularly as the beaters make most extraordinary antics. When each piece is sufficiently compacted it is allowed to dry. As portions of mud of a parallelogrammic form are thus treated, the house presents lines, which at first lead one to suppose that it is built of blocks of coarse sand-stone. The process is very tedious.

The sculpture they possess would appear to be Chinese: some of the figures were really excellent; the finest we saw were at Dewangiri, especially that of the Dhurma, before which it is considered impossible to sin, and this may be the reason of the natives striving so strenuously to do so. All these figures were well dressed. The few figures of Boodh that I saw were rather rude, in the usual position, and with the usual long fingers and toes. These people certainly have an idea of drawing, and this was very pleasing. To a native of the Plains you may shew a drawing which you have every reason to be pleased with, particularly if you have done it yourself, and he says, "*kya?*" or he mistakes a house for a boat, or a tree for a cow. In Bootan, however, the case is very different; our sketches were recognised immediately, no matter what subjects we intended to represent. They are also ready at comprehending charts. And with regard to their own performances we had opportunities of judgment presented to us by the walls of many houses, which were covered with scrawls; they excel in the representation of animals, particularly when the shape depends upon the will of the artist.

Music enters into most of their ceremonies, and the favourite instrument emits a sound like that of a bassoon. Another favourite instrument is a clarionet, particularly when made from the thigh bone of a man: the sound of this is equal to that of any Bengal musical instrument, and is as disagreeable as it is continuous, the skill of the performer depending entirely upon his length of wind. One of these instruments generally heads every procession of sufficient importance.

At two of our interviews with Soobah we had an opportunity of witnessing the mode of dancing, which was done entirely by women, and as certain qualifications for dancing girls exist to a remarkable extent in Bootan, they are chosen indiscriminately. The dancing merely consists in slow revolutions and evolutions, and outturning of the

hands. They danced to their own music, which consisted of a low monotonous chanting, of a much more pleasing nature than the *al-tissimo* screeching so admired in India.

Of their manufacturing skill I saw few or no instances. All the woollen cloths of ordinary quality are imported from Bengal or Thibet; their own manufacture being, it is said, confined to the production of coarse, often striped, blankets, scarcely a foot wide. They make but very little cotton cloth, and the manufacture of this appears to be confined to the villages near the Plains; the article is of poor and coarse quality: all their silks and many other parts of their fine apparel are Chinese.

I have before mentioned the use they make of bamboos, and rattans: in the work of articles manufactured from these materials they are not superior to the wildest of the Hill tribes to be found about Assam.

Their ordinary drinking cups are wooden, and look as if they were turned; and they are perhaps the best specimens of manufacture we witnessed.

Their workers in metal are very inferior; we saw some miserable blacksmiths and silversmiths, provided with utterly inefficient apparatus; however there is not much demand on their skill, as all their arms, and all their better sort of utensils are of foreign manufacture, principally Thibetan. They are said to manufacture the copper pans used for cooking or dyeing, and which are frequently of very large dimensions; and they went so far as to point out the place of manufacture, viz. Tassangsee. But I doubt this, for in the first place the vessels resemble much those made in Thibet; and in the second, I saw nothing like any manufacture going on at Tassangsee, except that of burning charcoal, which is much used in cooking. Paper they certainly do make, and in some quantity: I had no opportunity of seeing the process. The material is furnished by two or three species of *Daphne*. The article varies much in size, shape, and quantity; the finest being white, clean, and very thin; the worst nearly as coarse as brown paper. If bought from the manufacturers themselves it is cheap, the price being six annas for twenty large sheets; if from an agent the price of course increases in a centesimal proportion. It is well adapted for packing, as insects will not come near it, always excepting the formidable white ant, who however consumes the contents of the paper, not the article itself. This paper appears to be precisely the same as that manufactured to the north-west and south-east by the Shan Chinese.

The only potteries, I saw were near Punukka, but although they supplied the capital, there were only two or three families employed. The clay is obtained close to the potteries, and is of tolerable quality;

it is pulverised by thrashing with a flat club, and is then sifted. It is subsequently kneaded by means of water into the proper consistence. The operations are conducted entirely by the hand, and the dexterity which is shewn in fashioning the vessels is considerable. Of vessels for containing water the upper half is made first, and the under is added afterwards. Those made during the day are burnt at night, being covered with straw, which is then set on fire; the finishing operation, if required, and which is intended as a substitute for glazing, is rubbing them over with tarry turpentine; they are then packed and carried off to market, or rather to the palace: the artists are the poorest of the poor, and as filthy as any other class in Bootan. They live close to the potteries, in the most miserable hovels imaginable. The wares they furnish are of several sorts—dishes, and pans, (some of which have very small inefficient handles) gurrahs, and large oblong vessels for containing water; of these one family consisting of ten or twelve can make a considerable number, say sixty in one day.

Of their manufactures of leathern articles I can say nothing: the only articles I saw of this nature were the boots, which are of untanned hides, and the reticules for holding tobacco, which are of decent fashioning, tanned and coloured. And I believe I may here close the list, meagre as it is, for the sugar, oil, ghee, &c. they use, is all brought up from the Plains. As their manufactures are at so low an ebb, not much is to be expected in the way of commerce; and this must continue to be the case so long as they derive every thing from the Plains, and make no returns whatever; so long as they may live an idle life at the expense of others. Throughout the country indeed there is but little evidence of frequency of intercourse. The busiest place by far was Dewangiri, but this depended chiefly on the steps taken for the provision of our party, and on the daily assembling of the Kampas prior to descending to Hazoo. The Deb is stated to be the principal merchant, but we only met two coolies laden with his merchandise! All the Soobahs likewise trade, but I apprehend their dealings are altogether insignificant; for excepting their followers, who are disinclined to pay, even had they money, and the priests who will not pay, I know none from whom advantage in the way of traffic could with any reason be expected.

The exports from Bootan to the Plains are generally exposed for sale at annual fairs, of which Hazoo and Rungpore are the principal. The articles are ponies, mules, woollen cloth, and rock salt. To these I must add a peculiar spice, known in Assam by the name of *Jubrung*, and which is used, I believe, to some extent by the natives in their cookery. It is very fragrant, very aromatic, and excessively pungent, and if kept in the mouth but a short time, occasions a

remarkably tremulous sensation of the tongue and lips. It is the capsule of a species of *Zanthoxylon* found on other mountains to the north-east, although I am not aware whether it is used as a spice elsewhere than in Bootan. Captain Jenkins first pointed it out to me, and I had several opportunities of seeing the shrub producing it during my visit to Bootan. All these are of inferior quality, scarcely less so, perhaps, than the article in which they pay the greater part of even their nominal tribute. From Thibet they obtain all their silks and tea, there is, however, very little intercourse between the countries.

I am afraid that this very imperfect account will be considered as prejudiced; but I believe it will be found, if put to the test, tolerably faithful. I went into the country prepossessed in favour of every thing bearing the name of Bootan—I expected to see a rich country, and a civilized people. I need not say how all my expectations were disappointed. Whatever ulterior benefits may be derived from the Mission, one, and that by no means inconsiderable, has already resulted—I allude to the demolition of the extravagant ideas entertained, even by our frontier officers, of the prowess and riches of Bootan. As the Mission will have been the means of reducing this people to their proper level among barbarous tribes, we may expect their demeanour will become more respectful, their behaviour more cautious, and the payment of the tribute more sound and more punctual. In a word, they will understand that they are tolerated by—not the equals of—the gigantic British power. I have stated my opinion of them with some severity, but with impartiality; and my conviction is, that they are in all the higher attributes very inferior to any other mountainous tribe I am acquainted with on the north-east frontier.

It must not be supposed that, however disgusted with the inhabitants of the country, the Mission was not a source of great gratification to me. It afforded me an opportunity of visiting a very alpine country; and, what is much more important, of fixing, through the kindness and skill of Captain Pemberton, the localities of nearly 1500 species of plants with such accuracy, that the collection will be of much interest to all students of botanical geography. It afforded me too an opportunity of profiting from the valuable instructions of Captain Pemberton; so much so, that it will always be a matter of regret to me that I was so ignorant of so many essential requisites during the other journeys I have had the honour of performing.

WILLIAM GRIFFITH,

*Asst. Surg. Madras Est. in Med. charge Bootan Mission.*

ART. II.—*Account of Tamba Patra Plates dug up at Baroda in Goojrat ; with Facsimile and Translation.*

(Laid before the Meeting of the Asiatic Society of 5th June, 1839.)

The Tamba Patras now submitted to the inspection of the members of this Society were placed in my hands by Mr. W. P. GRANT, who obtained them from BENI RAM, of *Baroda*, and whose account of the method of their discovery as derived from that person, was, that they were dug up in excavating the foundations of a house in that city.

The grant is peculiar in many respects. It is in a character not exactly corresponding with any previously observed, but sufficiently similar to that of the grants decyphered by Mr. WATHEN to be easily made out by persons accustomed to the work, after a little study and comparison. The pandits and antiquaries of *Baroda*, indeed, were baffled in their attempts to make out the character, and the plates were put into my hands as undecypherable ; but KAMLAKANTA, the pandit who assisted our late Secretary in his discoveries, undertook the task of reading them with confidence, and accomplished the complete transcription into Devanâgrî in about a fortnight. The plates are submitted to inspection with a transcript, fac-simile, and close translation, the latter made by SARODA PARSHAD CHAKRAVARTI.

They are found to be the record of a deed of grant made by KARKA' Raja of *Lâtêshwara* to BHĀ'NU BRAHMIN, son of SA'MADITYA, in the year of Saka 734, corresponding with 812 A.D., that is, just one thousand and twenty-seven years ago. Their state of preservation is wonderful for such a period, but that may be owing partly to the purity of the copper, and partly to the care with which the edges have been beaten up so as to take all the friction, and prevent the faces of the plates from rubbing against one another. Their present appearance is owing to an acid having been used to clean them.

Although uniformly clean and bright, the marks of corrosion will be observed in several places, which are the effect of antiquity ; but fortunately the letters are so deeply engraved that scarcely any are completely effaced.

The historical facts deducible from this Tamba Patra are the following :—

*First*, That towards the end of the 8th and beginning of the 9th century of our era, that is during the reign of CHARLEMAGNE of France, Hindoostan and the Dukhun were divided into four kingdoms :—The *Gajara* Raj westward—the *Mahwa* Raj central—to the east the *Gourha* Raj, (including *Bengal* and *Behar*)—and the *Lâtêshwara* Raj

to the south ; of which last the reigning Raja in 812 A.D. was KARKA' Raja, the maker of this grant.

*Secondly*, That in the *Lâtêshwara* Raj the following kings, ancestors of KARKA' Raja, had successively reigned :—

1. GOVIND Raja.
2. KARKA, Raja, his son.
3. KRISHNA Raja, his son.
4. DHRUVA Raja his son, who obtained the beatitude of dying at Allahabad where the waters of Jamna and Ganga unite.
5. GOVINDA Raja II, son of Dhruva.
6. INDRA Raja, brother of Govinda.
7. KARKA, Raja II, son of Indra Raja.

*Thirdly*, It further appears that in 812 A.D. KARKA Raja had no son ; but his brother DANTI VARMA signs as heir presumptive.

*Fourthly*, The capital of the *Lâtêshwara* Raj appears to have been *Elapûr*, where a magnificent fort and temple of Siva are stated to have been erected by the third of the above race—the KRISHNA Raja.

It remains to identify this dynasty. Of all the lists of Rajas and races collected in the late Secretary's useful tables, the one, and indeed the only one, which contains names corresponding with those found in the present grant is that given in Table XLIV. page 121, headed "Rajas of Chera or Konga," (comprehending *Salem* and *Coimbatore*) and stated to be taken from the late Colonel Mackenzie's manuscript collections.

Amongst the twenty-six princes of that dynasty, taken from the *Kongadesa Raja Kal*,\* all the names of our list are found except that of INDRA Raja, the father of KARKA Raja II. This latter name, KARKA, I take to be identical with that of KONGANI, which occurs thrice amongst the twenty-six. The period assigned in the useful tables for the Rajas of *Kongadê*s corresponds exactly with the date of our grant ; nevertheless I do not feel quite satisfied with the evidence to the identity of *Lâtêshwara* with the Kongadê's, and I should wish the attention of the learned and curious to be directed to the determination of this point, and to the ascertainment of the locality of the famous fort of *Elapûr*.

H. T. P.

\* The notice of this work will be found in page 198 of Professor WILSON's printed account of the collection of Col. MACKENZIE's manuscripts, and again in the Rev. Mr. TAYLOR's more recent examination of the manuscripts at Madras. There are, it appears, two copies of the work in Tamul on Palm leaves, from which Mr. TAYLOR has had a copy transcribed on paper, and deeming the work valuable, he has translated it.

स वो ऽद्यादचसामीशो यन्नाभिकमलाश्रितः ।  
हरश्च यस्य कान्तेन्दुकलया समलङ्कृतः ॥१॥

स्वस्ति स्वकीयान्वयवंशकर्त्ता श्रीराष्ट्रभूपामलवंशजन्मा ।  
प्रयाणश्चरः समरैकवीरो गोविन्दराजः क्षितिपो वभूव ॥२॥

यस्याक्षिमाञ्जयिनः प्रियसाहसस्य  
दमापोलवंशहृनमेववभूव सैन्यं ।  
मन्त्रा च शङ्करमधीश्वरमीश्वराणां  
नावन्दतान्यममरेष्वपि यो मनस्वी ॥३॥

पुञ्जीयतश्च खलु तस्य भवप्रसादात्  
सूनुर्वभूव गुणराशिददारकीर्तिः ।  
यो गौणनामपरिवारमुवाह मुखां  
श्रीकर्कराजसुभगव्यपदेशमुच्चैः ॥४॥

सौराज्यजल्प्ये पतिते प्रसङ्गान्निदर्शनं विश्वजनैकसम्पत् ।  
राज्यं कुलैः पूर्वमहो वभूव क्षिताविदानीन्तु नृपस्य यस्य ॥५॥

अत्यङ्गतचेदममंस्त लोकः कलिप्रभावेण यमेकपादं ।  
जातं वृषं यः हतवानिदानीं भूयश्चतुष्पादमभिन्नचारं ॥६॥

विष्णौ जगत्त्राणपरे मनस्थे तस्योचिते तन्मयमानसस्य ।  
धर्म्मात्मनस्तस्य नृपस्य जज्ञे सुतः सधर्म्मा खलु दृष्णराजः ॥७॥

यो वंश्यमुन्मूल्य विमार्गभाजं राज्यं स्वयं गोचहिताय यज्ञे ।  
ब्रह्मण्यभा तस्य च कापि सामूहिमाय वा केवलजातयोऽपि ॥८॥

श्रेष्ठद्विजन्मोचितदानलुब्धाः कर्माण्यनुष्ठानकृतानि चक्रुः ।  
 इच्छातिरेकेन लुषीबलानां पयो यथा मुञ्चति जातु मेघे ॥  
 भवेन्मनस्तद्विरतौ तथाभूद्यस्मिन् धनं वर्षनि सेवकानां ॥९॥

यो युद्धकण्डूतिगृहीतमुच्चैः सौण्यौष्मसंदीपितचापदन्तं ।  
 महावराहं हरिणीचकार प्राज्यप्रभावः खलुराजसिंहः ॥१०॥

एलापुराचलगताङ्गतसन्निवेशं  
 यदीदृश्य विस्मितविमानचरामरेन्द्राः ।  
 एतत् स्वयम्भुशिववामनकृचिमेग्री  
 दृष्टेदृशीति सततं बद्ध चर्चयन्ति ॥११॥

भूयस्तथाविधकृतौ व्यवसायहाने  
 रेतन्मया कथमहो कृतमित्यकस्मात् ।  
 कर्तापि यस्य खलु विस्मयमाप शिल्पी  
 तन्नामकीर्त्तनमकार्यत येन राज्ञा ॥१२॥

गङ्गाप्रवाहद्विमदीधितिकालकूटे  
 रत्यङ्गताभरणकैः कृतमण्डनोऽपि ।  
 माणिक्यकाञ्चनपुरःसरसर्वभूत्या  
 तत्र स्थितः स्वयमभूष्यत येन शम्भुः ॥१३॥

नृपस्य तस्य ध्रुवराजनामा महानुभावस्तनयो बभूव ।  
 तृणीकृतान्यस्य पराक्रमेण प्रतापवक्त्रिर्दिषतो ददाह ॥१४॥

लक्ष्मीप्रसाधनविधाययोगिह्यार्थं  
 यस्मिन्तयन् स्वयमभूदनिग्रं कृतार्थः ।  
 किञ्चात्र चित्रमनपेक्ष्यसहायमीशः  
 सर्वपुमान्निजबधूँ स्ववशां विधातुं ॥१५॥



यो गङ्गायमुने तरङ्गसुभगे गृह्णन् परेभ्यः समं  
 साक्षाच्चिह्ननिभेन चोत्तमपदं यः प्राप्तवानैश्वरं ।  
 दद्यात्सम्मितवैभवैरिव गुणैर्यस्य भवमद्भिर्दिशो  
 व्याप्तास्तस्य वभूव कीर्त्तिपुरुषो गोविन्दराजः सुतः ॥१६॥  
 प्रदेशवृत्तिव्यवसायभाजां पुरातनानामपि पार्थिवानां ।  
 यज्ञांसि यो नाम जह्वात् भूयो भग्नप्रचण्डाखिलवैरिवीरः ॥१७॥  
 उन्मूलितोत्तुङ्गनरेन्द्र वंशो  
 महानरेन्द्रोद्यततुष्टुल्यः ।  
 स्वेच्छाविधायी चरितानुकारं  
 चकार यो नाम विधेः क्षितीशः ॥१८॥  
 द्विज्जीरञ्चिस्त्रिणोच्चरणनरातीन्  
 कुर्वन् क्षणेन विदधेऽद्भुतकर्म यस्तु ।  
 चक्रे तथाहि न तथास्तु बधं परेषां  
 पार्थोऽपि नाम भुवनञ्चितयैकवीरः ॥१९॥  
 कल्पक्षयक्षयसमुद्भववातहेला  
 दोलायमानकुलशैलकुलानुकारं ।  
 यन्मुक्तचण्डश्चरजालजवप्रपन्ना  
 युद्धागतारिपुगजेन्द्रघटा चकार ॥२०॥  
 भ्राता तु तस्येन्द्रसखानवीर्यैः श्रीमान् भुवि ह्यमपतिरिन्द्रराजः ।  
 ज्ञास्ता वभूवाद्भुतकीर्त्तिस्तत्तदा तु खाटेश्वरमण्डलस्य ॥२१॥  
 अद्यापि यस्य सुरकिन्नरसिद्धसाध्य  
 विद्याधराधिपतयो गुणपक्षपातात् ।  
 गायन्ति कुन्दकुसुमश्रियशोयथास्व  
 धामस्थिता सहचरीकुचदत्तहस्ताः ॥२२॥

येनैकेन च गुर्जरेश्वरपतिर्बहुं समभ्युद्यतः

शौर्यप्रोद्धतकन्दरो मृग ईव क्षिप्रं दिशो ग्राहितः ।

भीतासंहतदक्षिणापथमहासामन्तचक्रायते

रक्षामापविलुप्यमानविभवं श्रीवल्लभेनादरात् ॥२३॥

तस्यात्मजः प्रथितविक्रमवैरिवर्ग

लक्ष्मीहरोद्धरपदान्बुजलग्नचित्तः ।

श्रीकर्कराज्यपरिपालनसर्वरीशः

शास्त्रार्थबोधपरिपालितसर्वलोकः ॥२४॥

राज्ये यस्य न तत्कुरस्य वसतिर्यथाधेः प्रसूतिर्मृता

दुर्भक्ष्यं न च विभ्रमस्य महिमा नैवोपसर्गोद्भवः ।

क्षीणो दोषगणः प्रतापविनतास्रैवारिवर्गस्तथा

नो विदत्परिपन्थिनी प्रभवति क्वरा खलानां मतिः ॥२५॥

गौडेन्द्रवंशपतिर्निर्जयदुर्विदग्ध

सद्गुर्जरेश्वरदिगर्गलताञ्च यस्य ।

नीत्वा भुजं विहृतमालवरक्षणार्थं

स्वामी तथान्यमपि राज्यफलानि भुङ्क्ते ॥२६॥

तेनेदं विद्वच्चक्षुलभालोक्य आश्रुतं क्षितिदानं परमपुण्यं प्रवर्त्ति  
तोऽयं धर्मदायः॥ सच्च लाटेश्वरसमधिगताशेषमहाशिश्टमहासामन्ता  
धिपतिसुवर्णवर्षश्रीकर्कराजदेवो यथासम्बोध्यमानकान् । राष्ट्रपति  
विषयपतियामकूलाधिकारिकमहत्तरादीन् समनुबोधयत्यस्तुवः  
संविदितं यथामया सिद्धश्रमसमावासितेन मातापित्रोरात्मनश्चैहि  
कामुष्मिकपुण्ययशोभिवृद्धये श्रीवल्लभीविनिर्गततत्तातुर्विद्यसामान्य  
वात्स्यायनसगोत्रमार्थ्यन्दिनसन्नक्षत्रारिब्राह्मणभानवेभट्टसोमादित्य

पुत्राया क्लोडकचतुरशीत्यन्तर्गतपट्टकाभिधानधामैर्घ्यस्याघाटनानि  
 पूर्वतो जम्बुवाविकायामस्तथा दक्षिणतो महासनकाख्यतद्भागं तथा  
 पश्चिमतोऽक्लोडनं तथोत्तरतो वग्धाक्याम एवमसौ चतुराघाटनो  
 पलक्षितः सपरिकरः सभूतवातप्रत्यायः सदण्डदशापराधः  
 सोत्पद्यमानविष्टिकः सधान्यहिरण्योदयः सर्वराजकीयानाम  
 हस्तप्रक्षेपणो यः स चन्द्रार्काणवसरित्पर्वतसमकालीनः पुत्रपौत्रा  
 द्यन्वयभोग्यः पूर्वप्रदत्तदेवदायब्रह्मदायरहितो भूमिच्छिद्रन्यायेन  
 शकनृपकालातीतसंवत्सरशतेषु सप्तसु चतुस्त्रिंशदधिकेषु महा  
 वैशाखस्य द्वादशदिवसे बलिचरवैश्यदेवाग्निहोत्रातिथिपक्ष  
 महायज्ञक्रतुक्रियाद्यत्सर्पणार्थं प्रतिपादितः । यतो ऽस्योचितया  
 ब्रह्मदायस्थित्वा भुञ्जतो भोजयतः प्रतिदिशतो वा क्षपतः कर्पयश्च  
 न केनचित् प्रतिबन्धना कार्या तद्भोगार्थिभिरस्मद्वंश्यैरन्यैश्च सामा  
 न्यभूमिदानमवगच्छद्भिर्विद्यलोलान्यनित्यान्यैश्चर्याणि तृणायलग्रज  
 लविन्दुचक्षुलश्च जीवितमाकलय्य स्वदायनिर्विशेषोऽयमस्मदायोऽ  
 नुमन्तव्यः पालितव्यश्च । यश्चाज्ञानतिमिरपटलावृतमतिराह्निद्धा  
 दाह्निद्यमानश्चानुमोदते । स पञ्चभिर्महापातकैः सोपपातकैश्च युक्तः  
 स्यादित्युक्तञ्च । भगवतावेदव्यासेन । आसेन

विन्ध्याटवीष्वतोयासु शुष्ककोटरवासिनः ।

ह्यण्णाहयो हि जायन्ते भूमिदायापहारिणः ॥

अग्नेरपत्यं प्रथमं सुवर्णं भूर्वैष्णवी सूर्य्यसुताश्च गावः ।

लोकत्रयं तेन भवेच्च दत्तं यः काश्चनं गाञ्च महीञ्च दद्यात् ॥

वज्रभिर्वसुधा भुक्ता राजभिः सगरादिभिः ।

यस्य यस्य यदा भूमिस्तस्य तस्य तदा फलं ॥

यानीह दत्तानि पुरानरेन्द्रैर्दानानि धर्मार्थवत्पुत्रराशि ।  
निर्मास्यवान्तप्रतिमानि तानि को नाम साधुः पुनराददीत ॥

स्वदत्तां परदत्तां वा यत्नाद्ब्रह्म मराधिप ।  
महीं महीभृतां अष्ट दानाद्वेयोऽनुपालनं ॥

द्रुतिकमलदलाम्बुलोलां श्रियमनुचिन्त्य मनुष्यजीवितञ्च ।  
अतिविमलमनोभि रात्मनीनैर्नहि पुरुषैः परकीर्तयो विलोप्याः ॥

उक्तञ्च भगवता रामभद्रेण ॥ सर्वानेतान् भाविनः पार्श्वं  
वेन्द्रान् भूयो भूयो याचते रामभद्रः । सामान्योऽयं धर्मसेतु  
नृपाणां कालेकालेपालनीयो भवद्भिः । द्रुतकञ्चाप राजपुत्रश्री  
दन्तिवर्मा । स्वहस्ती मम श्रीकर्कराजस्य श्रीमदिन्द्रराजसुत  
स्य ॥ लिखितञ्चैतन्मया महासन्धिविश्रहाधिकृतकुलपुत्रकदुर्गभ  
टसूनुना नेमादित्येनेति ॥ अथञ्च ग्रामोऽतीतनरपतिपरीक्षिणान  
टकश्रीचातुर्विधाय प्रदत्तो गुणिनेऽपि कुलजजातिविलोपाधि  
च्छिन्नपरिभोगं चौचित्थं श्रीधरामान्यस्य धीविशिष्टक्षम्यमिह  
तुद्विजनेन द्रुतिताम् पुविस्त्रोषपापमान परिभोगनुतपानुजानुभो  
दितैः लालाताप्ययन्त्रेभ्यो लालाक्षतापूलप्रदानपूर्वकालपा एतञ्च  
पतिजाष्टादत्त प्रकृति कविपिष्टस्य ताड्य श्रीपरमापिता यदा  
मूलं जानातीति ॥

## TRANSLATION OF TAMBA PATRA PLATES.

1. May he in whose lily-like navel Brahmá took his abode, and with whose wife's brother (i. e. the moon) Siva is ornamented, protect you.

2. There was a Rájá named GOVINDA Rájá who was the superior of his race, and the ornament of the *Surastra* kingdom; he was sprung from a spotless line, a hero in enterprize, and most valiant in war.

3. He (GOVINDA Rájá) was most gallant, intelligent, and victorious at his first glance over all. His armies were like ploughs rooting up the royal families (of his enemies). He never adored other gods but Siva, the god of gods.

4. From him, anxious to obtain children, was born through the favor of Siva, KARKA Rájá, who was possessed of all good qualities. The name was well adapted to him.

5. His (KARKA Rájá's) kingdom, (which lost the appellation *Sowrájya* through the ruin that had fallen upon it, but the remains of the splendour of which are esteemed by the universe) was formerly governed jointly by the descendants of this race, but afterwards by him alone.

6. Men were struck with surprise by his restoring the *Vrisha* to its four legs, which had been reduced to one by KALI' (yúga), and by his making it to walk without limping.\*

7. It is not wonderful that he governed his people with propriety, (being so gifted); having placed Vishnú as the object of his meditation, he (died and) was succeeded by his son named KRISHNA Rájá, who was virtuous, and like the son of DHARMA (JU'DHISTHÍ'RA): he expelled those who were addicted to evil, for the prosperity of his line and reign.

8. His devotion to Bráhmans was unspeakable and confirmed, and those who were only nominally Bráhmans (i. e. who had fallen off from their religion) resumed their former rites through the greedy desire of obtaining gifts from him, which were due to more perfect Bráhmans.

9. By his constant liberality the minds of his attendants were refreshed like those of farmers by exuberant showers.

10 He who was ~~like~~ a lion among Rájás, and powerful in sovereignty, overcame his ~~boar~~-like rivals like deers; though their teeth, curved like bows, were radiant with the rays of heroism, and they itched with the desire of fight.

11 The immortals walking on the firmament, being astonished with

\* This is a figurative mode of saying "That he restored to virtue the three parts which it is supposed to have lost in the Kali yúga," the word for quarter पाद being the same as for foot, makes the conceit which gives point to this expression.

the view of his fort of *Elapúr*, declared continually that the beauty of that fort was no where to be found but in the works of Swayambhú, Siva, and Bámana.

12. The architect of it was himself struck with wonder at its beauty. His name has been proclaimed every where by the king himself.

13. The image of SAMBHU' (Siva) established therein, though wonderfully ornamented with the symbols of Gangá, the crescent and the kálakúta (a kind of poison), yet was further adorned with ornaments of gold and jewels, and several other materials.

14. His (KRISHNA Rája's) son was DHRU'VA Rája : his enemies, who were humbled by his might, were burnt by the fire of his spirit.

15. He was successful in his endeavours to bring LAKSHMI to submission, how wonderful!! for even SIVA, though lord of all, was unable to make his wife obedient to him without resuming his godhead.

16. From DHRU'VA Rája, who established peace with all his enemies, and who attained the final and the highest rank of gods (dying) at the junction of the waters of *Gangá* and *Yamúná*, immersed in them with remarkable signs, and whose merits covered the universe, was born GOVINDA Rája, who was famous.

17. He deprived all the kings of antiquity who had their communication with different countries of their fame, and destroyed all his enemies.

18. He was in all circumstances irresponsible, and resembled the \* *Creator* in his conduct, destroying all rival claimants to royalty in his time, and setting them at defiance.

19. He did such wonders in battle, that his foes acknowledged that they had been taught by men ignorant of military affairs. He was like PARATHA, the only hero in the three regions who never deprived his enemies of their lives.

20. The elephants of his enemies which came forward in battle and were pierced with his shafts, resembled the wall mountain of the world shaken by the winds at the end of *kalpa* (during the deluge.)

21. His brother INDRA Raja, a king powerful like INDRA, governed the kingdom of *Látéshwara*. He performed many wonderful deeds.

22. To this day, the Gods, Kenuaras, Siddhas, Sádhyas, and the Vidyádhara, who have heard of his qualities, are singing his *kunda*-flower-like fame, lost to all sense of shame in their transports, and putting their hands on the breasts of other's females, (i. e. they are so deeply engaged in song that they have become out of sense.)

23. He soon reduced the king of *Gujjara*, who prepared to engage in war with him, and who raised his head with bravery, to fly skulking like a deer, and after plundering all his estates restored him again, out

of compassion, saving his chieftains from ruin who were afraid of (him) and scattered in different places.

24. His (INDRA Rāja's) son was the LAKSHMI enticer, whose mind was devoted to the lily-feet of HARA (Siva), and whose spirit was felt by his enemies, like the moon in disposition—KARKA Rāja who preserved mankind.

25. There was no robber in his kingdom, nor any sort of mortification, nor famine, nor fear, accidental or natural. All kinds of vice were reduced to a low ebb, and his enemies were humbled; none had the presumption to show disrespect to those who were learned.

26. The owner of *Málava*, in order to defend his kingdom from the invasion of the king of *Gourha* (Bengal) used the (uplifted) hand of KARKA Rāja as a stay on the lord of *Gujjara*, and thereby enjoyed all he desired.

27. He having considered life to be fickle as the lightning, and the virtue of giving land durable, executed this religious gift.

28. He, the king of *Lātēshwara*, possessed of armies and many chieftains, brought into submission in different countries, and in whose reign there was a shower of gold, thus proclaims to all his statesmen, the treasurers, the functionaries, and those who have the care of castes, with the respect due to them.

Be it known to all of you, that for promoting the virtue and fame both here, and in the next world, of his father, and mother, and himself, he, the said Rāja, has presented for continuing his five *jagnas* to the Brāhman. BHĀ'NU', who belonged to the line of VA'TSA'YANA, and was acquainted with the four *Vidyās*, and who was a religious student, the son of SOMA'DITYA, the fertile village called PATTANAK, part of the tract containing eighty-four *anghotans* (each 100 begas) bounded on the east by the village of *Jambúbābhā*, on the south by *Mahā Śanaka*, on the west by a *nala* (*ankootaka*), and on the north by the village *Bagghachha*. The land within the above boundaries is to be enjoyed with all marriage and other fees from cultivators, with all fishing and fruit privileges, with all that may be washed or deposited by torrents, with all fines for petty offences, with all free labour privileges, with all rights of treasure-trove and mines, without interference of any kind from government officers. It is to be enjoyed in full property as a perpetual inheritance by the said Brāhman; his sons, and posterity for ever, so long as the sun, moon, and rivers, and the mountains shall endure! It is not to be touched by the hands of the king's servants, nor to be claimed on the part of gods and Brāhmanas, by whom it was heretofore possessed. Given in the year of Saka's death 734 on the 12th of Bysakh (24th April, 822 A.D.)

Let none obstruct his (BHA'NU's) enjoying, or letting others enjoy it; or his ploughing, or letting others plough. After this, let future Rájās of our race, or of any other race, reflect that wealth and life are unstable as lightning, and fickle as water in the leaf of water lilies, and so let them respect this our grant, and confirm the grantees in possession. He only whose mind is blackened by the darkness of ignorance will resume, or be pleased at seeing others molest its possessor, reckless of the guilt of the five deadly sins and other heinous crimes, as described, at length by VE'DAVYA'SA.

He who grants lands lives 60,000 years in heaven, but he who confiscates or resumes, or allows others to do so, is doomed to hell for a like period.

Those who resume lands granted by others will become black serpents in the dry holes of the forest of the *Vindhya* mountain.

Gold is the first offspring of fire, and the earth the wife of VISHNU, and cows are the daughters of the sun. He who grants these things gives also the three regions.

The earth has been enjoyed by many kings, as the SA'GARA Rája and others, and he who rules it in his turn, is the sole enjoyer of its fruits.

But what generous man will take again the grants made by Rájās who have gone before him, and whose gifts are like wreaths of flowers, spreading the fragrance of a good name, and of the reputation for wealth and virtue.

Oh ye virtuous kings, respect the grants of lands (given by others), for to preserve their grants is better than a fresh donation.

Men whose minds are cleared from sin, considering life and wealth fickle as water in the leaf of the water lily, will never destroy the fame of others.

It is further said by RA'M BHADRA—You who, are the best of Rájās, are hereby repeatedly prayed by RA'M CHANDRA to preserve this bridge of virtue for ever.

Confirmed by the counter-signature of the presumptive heir and brother of the king, DANTI VARMA, and signed with the autograph of myself the KARKA Rája, son of INDRA Rája, and prepared and engrossed by the hereditary servant of the king for peace and war, NUNADITYA, son of DURGA BHATTA. For the good of my father and his ancestors have I made this grant to the Bráhmaṇ BHA'NU', who has served my family with his prayers for many years. May he enjoy the grant, and profit by it!

N.B. There are several counter-signatures, apparently autographs, in the last four lines of the last plate, which besides that they are of doubtful reading, it would be of little interest to transcribe. On the outside are the words "'Tis for the good of my father and mother."



**ART. III.—Collection of Facts which may be useful for the comprehension of ALEXANDER THE GREAT'S exploits on the Western Banks of the Indus (with map).**

By M. A. COURT, *Ancien Eleve de l'Ecole Militaire de Saint Cyr.*

(Translated for the Journal of the Asiatic Society from the French Original M.S.)

The military achievements of Alexander in the regions which lie between the Indus and the Cophenes form one of the most brilliant episodes of his history.

Those regions at present are known by the name of Yousoufzeis, Kooner, Suwat, Dhyr, Bajore, and Moumends. More northward lies Kaffristan, which occupies the southern and northern sides of the gigantic snow-topped chain of mountains which bounds this country to the north, and is but an extension of the Himalayas, and to the west reaches Hindo-Koosh at the Khound, an enormous ridge, the tops of which are flat, and almost perpetually covered with snow, a circumstance which renders it observable at a great distance: there are likewise visible the banks of the Indus, from which it is about eighty koss distant.

Those regions are bounded on the east by the Indus, on the south by the river of Cabul, which is no other but the Cophes or Cophenes of the Greeks, placed by Arrian at the eastern extremity of Paropamis, and the source of which Pliny collocates in the north western part of this mountainous province, assigning its course eastward, and stating that after its confluence with the Choes near Nyssa, it falls into the Indus to the south west of Taxila below Ambolima (probably *Amb*)—data that perfectly combine with the Cabul river, which I have described in my journey through Affghanistan. This name Cophes, by which it was known to the historiographers of antiquity, seems to have been given it by the Greeks, who may have derived it from *Cophenes* who perhaps then governed the country it washes in the name of his father Artabazus, whom Alexander had appointed prefect of Bactria. This is at least what induced Arrian to adopt the above opinion, who relates that Alexander was accompanied, on his arrival at the banks of the Indus, by Cophes and Assagetes, *ὑπαρχοὶ* or *sub-rulers* of the province situated to the west of that river. Or perhaps it is the name which it originally bore, and from a corruption of which the Mahometans formed the word *Kaffristan*.

This vast extent of mountainous country is very little known to Europeans. The geographical details which Quintus Curtius gives of it are too succinct, and it is a matter of much regret, that the veracious

Arrian has been incomparably dry, when treating this subject. Add to this the disastrous conquests of the Mahometans, who spread throughout trouble and confusion, besides the custom that prevailed, wherever the Greeks of Alexander's army were to be found, of changing the names of the places which they traversed, and we must unavoidably conclude that it is no easy task for a traveller to discern true from false.

Among the Oriental works (that treat on this subject) we have only the commentaries of Baberch on which we can rely for exact information. The few modern travellers extant are vague and uncertain. Those regions would procure for any European who would survey them, the glory of throwing a brilliant light on Alexander's march, and of enriching science with hitherto unknown facts relative to the Bactrians; in as much as they are overspread with ruins, cupolas, and inscriptions, all referring to those conquerors, and attributed by their actual inhabitants to the Caffrans. They are alluded to by the Chinese Religious, who traversed those countries in the commencement of the 7th century of our era, and whose manuscript exists in the Oriental Library of France. But whatever European may undertake a similar journey, must expect to encounter numberless dangers, and almost insurmountable obstacles from the barbarity of the tribes who inhabit them, and above all from the jealousy of the chiefs, who, naturally suspicious, are always inclined to form sinister judgments of the projects of any stranger who travels through their district. This was the lot of Dr. Henderson, who desirous of crossing those regions to repair to Badakchan, although he was disguised as a fakeer, and had a perfect knowledge of Persian, was seized, stripped, and beaten, for having put his foot in Suwat, and was compelled to return to Peshawur, where I had the good fortune to attend him. Subsequently I myself having become intimate with the chiefs of those regions, had cherished some hope of being enabled personally to explore them; but unfortunately the rank I hold in the army of the Maharajah of Lahore occasioned them so much terror, that they imagined that my researches, far from being actuated by curiosity and an interest for science, were only directed to explore the country, so as to facilitate its conquest by Runjeet Sing. I was thus constrained by their earnest remonstrances to abandon my intention of undertaking such a journey, and to content myself with having recourse to the people of Peshawur to survey secretly the country, so as to acquire some knowledge of its geography.

The items which I have had here transcribed in Persian were collected by them, and I only give them publicity in order to fix the attention of the geographers and archæologists who may happen to come hither after me, and to facilitate thereby the combination of modern

with ancient geography. I may possibly avail myself of these materials hereafter, to furnish a complement to my conjectures on Alexander's marches through Bactria.

The country which I am about to describe, is intersected by three principal rivers, viz. the Khonar, the Pendjecoore, and the Suwat.

The first directs its course S. S. W. along the southern side of the snowy chain above alluded to, dividing Caffristan from the cantons of Bajere and Dayr, and after rolling its impetuous waters through a bed strewn with rocks, wherein it would be difficult to meet any sand, it falls into the Cabul river, almost opposite the city of Jellalabad. I know not where it rises; some place its source in Cashgar, which it intersects. The proximity of the snowy chain, and the direction of the river's course, denote that it must necessarily have more than one influx. During the liquefaction of the snow it acquires so great a volume of water that it cannot be crossed but on rafts. This river, as I have stated in my memoirs, is denominated *Sind* by the Kaffrees who inhabit its banks, and *Khonar* by the Affghans, a name borrowed from a town that is the capital of a canton or district situated on its western bank, between Jellalabad and Bajore. Some travellers improperly give it the name of *Khameh*.\* This may be possibly the *Choes* of Arrian, which Alexander coasted on his march to *Suastus*, to which his troops may have given the name of *Choes*, a corruption probably of that of *Cheva*, a canton situated at its confluence with the Cabul river, which may have anciently given its name to this river, as the town of Khonar gave its own. As the Greeks sometimes translated the names of foreign places, and liked to call them by particular ones somehow connected with the traditions they indiscriminately adopted, they may possibly have *baptized* with the name of *Choes* one of the rivers of those regions, in memory of the festival of *Choes* (Χόες) or of the libations which the Athenians celebrated in the month of Anthesterion in honor of Bacchus, and which they also styled Ἀποθήρσια.

After what Strabo relates, we would be led to suppose that the river in question is his Choaspes, which disembogues, according to him, into the Cophenes.

The Penjecoore rising in Ghilghit, flows between the Suwat: its direction is from north to south. It is called *Penjecoore* because it is formed from the union of *five* other rivers, viz. the Laori, the Awchiri, the Neag, and the Jindé; the first of which is the most considerable of the five. Besides those influents,

\* This river is marked "*Kama*"









